UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

June 22, 2000

MEMORANDUM

SUBJECT: **Chlorpyrifos** (List A, Case No. 0100). Chronic Dietary Exposure Assessment for Chlorpyrifos RED with Updated Values for Anticipated Residues, Revised after Public Comments. Chemical No: 059101; DP Barcode: D263889; Rereg. Case No. 0100

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Background/Action Requested

Chronic dietary exposure estimates for chlorpyrifos were reported previously (D. Soderberg, Oct 14, 1999, "Revised Chronic Non-cancer Dietary Exposure Assessment for Chlorpyrifos," DP Barcode D260165). Please revise and update the chronic dietary exposure estimate for chlorpyrifos to address public comments and to reflect recent changes in policy. This revision may include processing information from the open literature as appropriate. As with the previous dietary exposure assessments in support of reregistration of chlorpyrifos, this assessment should use the most extensive refinements possible.

Executive Summary

This document revises the results of previous memoranda (D. Soderberg, Oct 14, 1999, "Revised Chronic Non-cancer Dietary Exposure Assessment for Chlorpyrifos," DP Barcode D260165, and D. Hrdy, June 1, 1999, "Anticipated Residues for Chronic Dietary Exposure Assessment for Chlorpyrifos RED," DP Barcode D255451). In addition to providing revised dietary exposure assessments, this current memorandum provides revised anticipated residues as a result of changes in Agency policies and new information from public comments.

HED has previously conducted highly refined chronic dietary exposure estimates which incorporated PDP monitoring data, FDA surveillance data and the DowAgroSciences (DAS) National Food Survey (NFS) market basket data. In the current revised assessments, NFS values are more extensively used. NFS data were used for milk, orange juice, apple sauce (used for all canned apples), apple juice, ground beef, pork sausage, and peanut butter. Although NFS data for tomatoes were submitted, there were less than 100 samples, and samples were collected only in Florida and did not reflect the use of chlorpyrifos on imported tomatoes. Imported tomatoes are a significant source of dietary exposure to chlorpyrifos in the US. Therefore, the NFS tomato data were not used. NFS data were also submitted for fresh apples. However, NFS data on fresh apples and PDP monitoring program data on fresh apples did not agree well, so separate analyses were performed using (a) PDP data for fresh apples and (b) NFS market basket data for fresh apples.

In toto, four separate dietary exposure analyses have been conducted. The first analysis included all commodities with established tolerances, and used the PDP apple monitoring data for fresh apples. The second analysis was a repeat of the first, but this time incorporated monitoring data for fresh apples from the registrant's National Food Survey (NFS) market basket study. This second analysis helped to describe the uncertainty in the risk estimate that arose between the two sets of apple data.

The third analysis took into consideration the Food Handling Establishment (FHE) use of chlorpyrifos. This analysis repeated the first analysis, but also included assigned residues, at 0.005 ppm, for all other commodities in DEEM^{TM}. This value was based on data supplied by the registrant indicating that residues are non-detectable at 0.01 ppm in foods following FHE application of chlorpyrifos, and was the ½ limit of detection. [A tolerance of 0.01 ppm has been established for all foods as a result of the FHE use (40 CFR 185.1000).] Information has been provided by the Biological and Economic Analysis Division (BEAD) that 24% of FHEs are treated with chlorpyrifos. This estimate has also been incorporated into the FHE residues in this exposure analysis as an adjustment factor. While the first analysis provided a risk estimate with a lower bound assumption of zero residues arising from FHE use, this analysis provided an upper bound to the risk estimate from residues that may be associated with FHE use.

The fourth analysis demonstrated the effect of including some commodities on which violative residues have been found. Chlorpyrifos is not registered for use on spinach, carrots, or squash, yet the PDP and FDA monitoring programs have found chlorpyrifos residues on these commodities for one or more years of sampling. Chronic dietary risk estimates did not appreciably increase with inclusion of these violative samples.

For the US population, and all population subgroups, the refined chronic dietary exposure estimates were less than 100% of the cPAD, even when including the maximum expected residues from food handling establishment use of chlorpyrifos. For exposure estimates including the FHE use, the percent of the cPAD that was occupied ranged from 3.1% for males 20+ years old, to 82% for children 1-6 years old. Children 1-6 were the population subgroup with the highest exposure in all scenarios. Exposure estimates without the FHE uses were lower, with children 1-6 years old having 62% of the cPAD occupied.

A brief summary of results is tabulated below, in Tables 1, 2, 3, and 4.

Table 1. Chronic Dietary Exposure and Risk Estimates for Selected Populations Using PDP Data for Fresh apples and not considering FHE use.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	0.000008	2.7 %
All Infants	0.00007	23 %
Children 1-6	0.000018	61 %
Children 7-12	0.000013	45 %
Female 13-50	0.000006	21 %
Males 13-19	0.000006	2.1%
Males 20+	0.000006	2.0%
Seniors	0.000007	2.2%

Note: All subpopulations are included in the actual DEEM Reports attached to this document. Only larger, well defined populations are listed here. The reliability of results for other sub-populations not tabulated above may be difficult to assure because the number of participants from these subpopulations in the Consumption Survey is small and sometimes not well defined.

Table 2. Chronic Dietary Exposure and Risk Estimate Using PDP Data for Fresh Apples and Considering FHE use.

Population	Exposure Estimate, FHE included	
	exposure (mg/kg/d)	percent of cPAD
U.S. Population	0.000012	3.9 %
All Infants	0.000014	45 %
Children 1-6	0.000024	81 %
Children 7-12	0.000018	59 %
Female 13-50	0.000009	30 %
Males 13-19	0.000009	3.2%
Males 20+	0.000009	3.1%
Seniors	0.000010	3.3%

Table 3. Chronic Dietary Exposure and Risk Estimates using NFS data for Fresh Apples.

Population	Exposure Estimate, with fresh apple data taken from NFS	
	exposure (mg/kg/d)	percent of cPAD
U.S. Population	0.000007	2.5 %
All Infants	0.000007	23 %
Children 1-6	0.000017	55 %
Children 7-12	0.000012	40 %
Female 13-50	0.000006	19 %
Males 13-19	0.000006	2.0 %
Males 20+	0.000006	1.9 %
Seniors	0.000006	2.1%

Table 4. Chronic Dietary Exposure and Risk Estimates for Selected Populations Using PDP Data for Fresh apples not considering FHE use but including violative residues on carrots, squash, and spinach.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	0.000008	2.7 %
All Infants	0.000008	26 %
Children 1-6	0.000018	61 %
Children 7-12	0.000013	45 %
Female 13-50	0.000006	21 %
Males 13-19	0.000006	2.1%
Males 20+	0.000006	2.0%
Seniors	0.000007	2.3%

Detailed Considerations

Toxicological Information

The current toxicological endpoints for chronic dietary risk assessment of chlorpyrifos are summarized in Table 5, below.

Table 5. Summary of Toxicology Endpoints Selection

EXPOSURE SCENARIO	DOSE (mg/kg/day)	ENDPOINT	STUDY
Chronic Dietary	NOAEL= 0.03 UF= 100 FQPA = 10 for infants, children and females 13+	Plasma and RBC cholinesterase inhibition	2 year dog study
	Revised Chronic RfD =0.0003 mg/kg/day Chronic PAD for infants, children and females 13+ = 0.00003 mg/kg/day Chronic PAD for the General Population and males 13+ = 0.0003mg/kg/day		

RfD = NOAEL/UF; PAD = RfD/FQPA factor

Residue Information

The following information describes, for each crop of interest, the calculation of the anticipated residue, for use in this chronic dietary risk assessment. The Quantitative Usage Analysis used to provide the average percent crop treated used throughout this section are from T. Kiely 3/17/00, "Quantitative Usage Analysis for Chlorpyrifos." A copy of this memo is included as attachment 1.

Apples:

USDA's Pesticide Data Program (PDP) analyzed a total of 1908 apples during the years 1994 to 1997. Of these samples, 425 showed detectable residue levels (22%) and the remainder were reported as non-detects. The range of reported detects in the analyses is 0.003 to 0.42 ppm, averages at 0.0260 ppm and sums to11.059 ppm. Biological and Economic Assessment Division (BEAD) estimated that an average of 44% of the apple crop has been treated with chlorpyrifos (T. Kiely 3/17/00, "Quantitative Usage Analysis for Chlorpyrifos"). If 44% of the apple crop has been treated, 56% has not been treated and 56% of the non-detects were assumed to be at zero. Since there were 425 samples with measured residues and 44% of 1908 samples have been treated, the remaining 415 non-detect samples were assumed to be at ½ LOD. Thus an anticipated residue for fresh apples was calculated as the sum of 425 detects (11.059 ppm), plus 415 samples at the average ½ LOD of 0.00257 ppm (1.0666 ppm), divided by 1908 total samples, to yield an anticipated residue of 0.00635 ppm on fresh apples.

Dow also submitted a "National Food survey" (NFS) market basket study of apples. In this study 200 total samples were collected and analyzed with ½ LOD of 0.001 ppm. Of these samples 69 contained detectable residues, averaging 0.011895, summing to 0.8194, and ranging from 0.002 - 0.052 ppm. At 44% crop treated, the anticipated residue for apples calculated with this data is 0.0042 ppm. Because these two surveys result in different levels of anticipated residues in apples, two separate results were calculated and were used in separate dietary exposure analyses.

The NFS and PDP data for apples have a similar distribution of residue values, but in general, PDP reported more detectable residues at higher concentrations than the NFS. The highest reported detectable residue in the NFS was 0.05 ppm, whereas for PDP it was 0.4 ppm.

Data for residues of chlorpyrifos on apples are available from several other sources as well. There are Food and Drug Administration (FDA) surveillance samples, FDA Total Diet Study samples, and a more recent survey of residues on single apples by PDP, along with a correlated 1999 survey on composited apples. (The latter was not used in this assessment because it became available so recently and because the regular PDP data provides a much larger data set.) There is also a small amount of information on fresh apples from the National Food Processor's Association (NFPA), and there is a currently ongoing industry sponsored National Market Basket Survey of organophosphate pesticides in various foods. Of all of these, the PDP survey is the largest, is statistically designed for risk assessment purposes and includes washing and trimming in sample preparation. The PDP data set is reasonably consistent with all other surveys.

Peeling Factor for Apples (Pome Fruits): As noted in the Residue Chemistry Chapter (1/25/84) of the Chlorpyrifos Registration Standard, data submitted in conjunction with PP#6F1777, 9F2221, and 1F2620 demonstrated that the majority of chlorpyrifos residues in apples were found on the apple peel. In summary, four freshly harvested samples containing 2.2 ppm to 4.6 ppm chlorpyrifos (average 3.4 ppm) were peeled. Peeled apples contained from 0.22 to 0.55 ppm chlorpyrifos. Removed peels contained 13 to 20 ppm chlorpyrifos. Based on the average level of

chlorpyrifos in whole apples and the upper-end residue found on peeled apples, it was determined that a reduction factor of 0.15x for peeling could be applied to whole apples when they were peeled. This factor could also be translated to pears. This peeling reduction factor has also been supported by results of a study described by a commentor from Michigan State University (El-Hadidi, M.F., 1993, *Studies on Pesticide Residues in Fresh and Processed Apple Fruits Under Ceratin Developed Pest Control Programs*, PhD Dissertation, Dept. of Economic Entomology, Faculty of Agriculture, Cairo University, Egypt). This factor was applied to all cooked forms of fresh apples except for apples, boiled. Novigen has indicated that all apple sauce was translated to DEEM™ as apples, boiled (see below). The peeling factor was also translated to pears, kiwi and sweet potatoes.

Apple Sauce: The registrant performed a market basket survey on 200 samples of apple sauce with a ½ LOD of 0.001 ppm. Four samples were positive for chlorpyrifos residues at 0.004 ppm. Based upon the estimated 44% crop treated, 84 (88-4) of the non detects were assumed to be at ½ LOD, and the remainder at zero. An anticipated residue was calculated as 4 X 0.004 ppm + 84 X 0.001 ppm divided by 200 = 0.0005 ppm. Novigen has indicated that all apple sauce was translated to the food form "apples, boiled" in the DEEM™ program and junior apple sauce was translated to "apples, canned, not further specified." Therefore this AR was used for apples, boiled and apples, canned, not further specified. Because apple sauce is processed in a relatively similar manner to other canned apples, this AR was also used for all other canned apples. This value was used regardless of whether the exposure assessment used PDP or NFS data for fresh apples.

Apples, Dried: The fresh apple AR was used for this food group, combined with a processing factor of 1.2. Thus, dried apples were given either an AR of 0.00635 ppm if the PDP apple data was used, or 0.0042 ppm if the registrant's market basket data was used. A processing factor of 1.2 was derived from the DEEM default factor of 8 times a peeling factor of 0.15. Note that there is also a separate dried apples food form under the fresh apples food group. The primary difference between this lone food form and food group of dried apples is that the lone dried apples food form is blended, while the food forms in the dried apple food group are all partially blended. This distinction is not important for chronic assessment and all of the dried apples food forms were given the same anticipated residue value and processing factor.

Apple Juice/Concentrate: Apple juice was also tested by both PDP and in a registrant submitted Market basket survey.

PDP analyzed a total of 860 samples of apple juice in 1996 and 1997. There was a single detected residue at 0.015 ppm. The average of ½ LODs reported by PDP was 0.003 ppm. Using 44% crop treated, an anticipated residue was calculated as the average of 1 sample at 0.015 ppm, and 377 samples at 0.003 ppm, divided by a total of 860 samples, to yield an AR of 0.0013 ppm.

A total of 198 samples of apple juice were analyzed in the NFS survey. Residues were detected in 2 samples at 0.015 ppm. The average ½ LOD reported was 0.0004 ppm. Using 44% crop

treated 86 (88-2) samples were assumed to be at the ½ LOD, and the remainder of the non-detects were assumed to be zero. An anticipated residue was calculated as the average of 2 samples at 0.015 ppm and 86 samples at 0.0004 ppm divided by a total of 198 samples = 0.00032 ppm. Since the two studies (PDP and NFS) produced similar results, except that the NFS Market Basket survey was tested with a lower LOD, the market basket result was used for apple juice in all assessments, regardless of whether PDP or NFS data was used for fresh apples.

A processing factor of 3 was applied to apple juice concentrate. This is the ratio of the two default DEEM factors for apple juice and apple juice concentrate 1.3/3.9. Since analyses were measured directly in apple juice, it would not have been appropriate to keep the factor of 1.3 for apple juice, which is intended to convert from residues measured on whole fresh apples.

Fresh Orange/Grapefruit/Lemons/Citrus: There were 1891 orange samples analyzed during the years 1994 to 1996 in the PDP monitoring data with 144 detects averaging 0.006674 ppm. These analyses were performed on the pulp of oranges after removal of the peel. The average estimated percent crop treated for all oranges per BEAD's 02/00 memo was 14%. However, in the same memo BEAD also estimated that an average 7% of oranges used for processing and an average of 41% of oranges eaten fresh have been treated with chlorpyrifos. Use of these percents crop treated yielded ARs of 0.0012 for fresh oranges (631 at ½ LOD of 0.0021, 144 detects summing to 0.961 ppm, and a total of 1891 samples). For processed oranges the AR value was 0.0005 ppm (from144 detects summing to 0.961, none at ½ LOD, and 1891 samples total.

In the public comments received, one commentor recommended that concentration factors between citrus pulp and peel could be taken from a study reported by Y. Iwata et al, *J Agric. Food Chem 31*, 603-610 (1983). In this study, all pulp tested had residues less than 0.03 ppm. The data for the peel were only presented in graphical form, but estimated values are as follows. In oranges, after treatment at 5 lbs ai/Acre with a 21day pre-harvest interval (PHI) the maximum residues were approximately 0.2 - 0.5 ppm, and after treatment at 10 lbs ai/Acre with a 21 day PHI the maximum residues were 0.3 - 0.75 ppm. For grapefruit, after a 21 day PHI, residues ranged from 0.2 ppm (at 5 lbs ai/Acre) to 0.3 ppm (at 10 lbs ai/Acre). In both cases there were no determinable residues in the pulp above 0.03 ppm. This has suggested that an estimated factor between peel and pulp of about 15 X (.5/.03) for oranges and 8 X (.25/.03) for grapefruit would be reasonable. Since PDP analyzed the orange pulp, these factors were used to estimate the more highly concentrated residues in the peel. The orange factor was also used for lemon and lime peels.

In order to translate the orange data to other citrus crops, a theoretical grand average AR value at 14% crop treated was calculated. This value was then translated to grapefruit, lemon and other citrus. The AR for oranges so calculated was 0.00064 ppm (from 121 samples at ½ LOD of 0.0021, 144 detects summing to 0.961, and 1891 total samples). This was then translated to grapefruits, average 12% crop treated, to yield an AR of 0.00055 ppm (based upon 144 detects summing to 0.961 ppm, 121 samples at ½ LOD of 0.0021 ppm, and total samples projected at 2208, from [121 + 144]/0.12). By a similar procedure a total of 883 samples were projected for

lemon from 30% crop treated to yield an AR of 0.0014 ppm. For other citrus a total of 1656 samples were projected from 16% crop treated to give an AR of 0.00073 ppm.

Orange Juice/Grapefruit Juice/Lemon Juice/Citrus Juice: Pesticide Data Program (PDP) analyzed 692 samples of orange juice in 1996 with 1 detected residue at 0.005 ppm (½ LOD of 0.0025 ppm). The percent crop treated from BEAD's 11/98 memo for processed oranges was 7% for processed for oranges and 14% average for all oranges.

The registrant also performed a market basket survey (NFS) consisting of 195 samples of orange juice with one positive finding at 0.0112 ppm, and with ½ LOD of 0.001 ppm. Since these results were entirely consistent with the PDP data, but were tested with slightly better sensitivity, the NFS results were used in the risk assessment. An AR was calculated for orange juice from the one detect at 0.0112 ppm, 13 samples (.07 X 195 - 1) at 0.001 ppm and the remaining 181 samples at zero. The resulting chronic AR was 0.00012 ppm.

To translate to other citrus juices an AR for orange juice was calculated from the BEAD estimated grand average percent crop treated of 14%. This yielded 26 samples at ½ LOD, one detect at 0.0112, and 168 samples at zero, or a theoretical AR of 0.00019 ppm. To translate this to grapefruits, 12% crop treated led to a projected total of 225 samples, with the same 26 at ½ LOD of 0.001, and one detect at 0.0112 ppm, for an AR of 0.000165 ppm. For lemons, 30% crop treated led to a projected 90 total samples and an AR of 0.00041 ppm. For other citrus, 16% crop treated led to a projected 169 samples and an AR of 0.00022 ppm.

Cranberries: Insufficient FDA monitoring data were available for cranberries for use in this risk assessment. Although FDA did test 74 samples of cranberries for chlorpyrifos between 1992 to 1997, and found measurable residues in 26 of these samples, HED currently requires that a minimum of 100 samples are needed for an acceptable survey data set. PDP has not yet included cranberries in their monitoring program.

The Cranberry Institute has generated monitoring data for chlorpyrifos in cranberries and has submitted it to EPA. A total of 139 samples of cranberries were tested over a period of three years from 1996 to 1998. There were determinable residues of chlorpyrifos ranging from 0.01 ppm to 0.34 ppm in 35 of these samples. The average positive finding was 0.076 ppm. This was an adequate number of samples to use for dietary exposure assessment. In addition, the Cranberry Institute method of analysis and quality assurance program have been determined to be adequate to support these results.

The sampling program used by the Cranberry Institute is primarily designed to minimize any potential exposure from residues on cranberries and was not intended for generating strictly randomized results for risk assessment. Sampling is scheduled for all cranberry growing regions and is prorated to each region by the size of the crop in that region. The program is designed to sample every grower in each region at least once every three years, and sampling from each individual grower is also prorated by acreage and by any factors that might result in increased

exposure, such as when a new pest treatment is being introduced. Within those constraints, samples are tested on a scheme of "random" choice. While this program is not strictly random, it is designed to provide a balanced survey of the cranberry crop, and to provide a conservative (worst case) overview of pesticide residues in cranberries.

The limited FDA monitoring data that are available are comparable to the data from the Cranberry Institute and support the reliability of their testing. The Cranberry Institute also submitted analyses of processed cranberry juice cocktail and other processed cranberry products. While these data were not considered adequate for use in this exposure assessment, they indicate that residues of chlorpyrifos are non-detectable (<0.01 ppm) in processed cranberry products.

Using 46% average crop treated from BEAD, and 35 detects, the Cranberry Institute data on raw, whole cranberries were estimated to include 29 samples that should be evaluated at ½ LOD of 0.005. For at total of 139 samples this yielded an AR of 0.0202 ppm. A reduction factor for juice of 0.3x (translated from grapes) was applied to cranberry juice.

Kiwi Fruit: FDA collected 278 domestic and imported kiwi fruit surveillance samples during the years 1992-1997, resulting in 35 samples with detected residues. These samples averaged 0.1687 ppm, summed to 5.9045 ppm and ranged from 0.005 ppm to 0.800 ppm. The vast majority of the detected residues were on imported kiwi fruit. Of 124 domestic kiwi fruit samples, only one residue was detected at 0.010 ppm. BEAD reported that less than 1% of domestic kiwi is treated with chlorpyrifos, and a default of 100% crop treated was assumed for imported kiwi. Since about half of all kiwi fruit in US markets is imported, a percent crop treated of 50% was used for all kiwi. Because 124 domestic kiwi samples, out of 278 total samples is reasonably close to half, the FDA data was used as reported, without pro-rating imported versus domestic samples. The resulting anticipated residue for imported and domestic kiwi was calculated from 35 results summing to 5.9045, 104 results at ½ LOD of 0.00015 ppm, and 139 zeros, to yield an average residue of 0.0213 ppm. A peeling reduction factor of 0.15X, translated from apples, was applied to kiwi.

Onions (dry bulb): FDA collected 230 samples during the years 1992 - 1997 and showed no detectable residues with a limit of detection of 0.003 (½ LOD of 0.00015 ppm). Percent crop treated data indicated an average %CT of 13%. The calculated anticipated residue was 0.00002 ppm assuming 13% of the samples contained residues at ½ LOD of 0.00015 ppm and the remainder did not contain any residues (are untreated).

Peppers, Green: FDA collected 368 samples during the years 1992 - 1997 which resulted in finding determinable residues in 19 samples (ranging from: 0.770 ppm and 0.930 ppm). The average percent crop treated from BEAD is 2%. An anticipated residue was calculated by assuming that 95% of the samples were 0, and the remaining 19 (5%) residues were present at their level detected. This yielded a mean residue of 0.0083 ppm for green peppers. This value was also used for all other peppers.

Sunflower seeds: An AR of 0.046 ppm for sunflower seed was taken from Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95. BEAD estimated that less than 1% of the sunflower crop was treated, so HED used a conservative estimate that 1% of the crop is treated to yield a value of 0.00046 ppm.

Sunflower Seed Oil: A sunflower seed oil anticipated residue (AR) was taken from the sunflower seed AR and a processing factor of 1x from Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468; Sunflower Seed Processing Study (MRID #431841401). Using 1% crop treated, this yielded 0.00046 ppm.

Tomatoes, Fresh Market: In 1996 - 1997 PDP analyzed 881 samples of tomatoes. A total of 256 of these were imported from other countries. Another 250 were grown in Florida, and 375 were grown in the US in states other than Florida. BEAD has estimated that 2% of US tomatoes, and 26% of imported tomatoes have been treated with chlorpyrifos. BEAD also estimated that about 34% of the US tomato consumption has been imported. The PDP database contained 256/881, or about 29% imported tomatoes. Of these 881 samples, 109 samples had detectable residues. These samples averaged 0.03287 ppm, summed to 3.583 ppm and ranged from 0.005 ppm to 0.31 ppm (83 of these detects were found on imported tomatoes). If 30% of 881 samples were at 26% crop treated and the remaining 70% were at 2% crop treated, a total of 81 samples were predicted to have been treated. Since this was somewhat less than the number of detects actually found, none of the samples were taken to be at ½ LOD. Therefore the chronic AR for fresh tomatoes was calculated to be 3.583/881 = 0.0041 ppm.

The registrant also submitted a market basket survey of 54 fresh market tomatoes from Florida. These samples were tested with an LOD of 0.01 ppm and 16 had positive findings ranging from 0.0025 - 0.057 ppm, averaging 0.01167 ppm. These samples were not used in this assessment because EPA ordinarily requires at least 100 samples before it can use monitoring data and because they do not reflect the use of chlorpyrifos on imported samples.

Tomatoes, Processed: Tomato Juice, Puree, Paste, and Catsup: According to information supplied by BEAD (T. Kiely, 03/17/00 "Re: Chlorpyrifos and Tomatoes") only 1% of the US consumption of processed tomatoes has been from imports, therefore residues in processed tomatoes should only be based upon domestically grown tomatoes. In addition, Florida tomatoes have been grown only for fresh market use. Therefore, a chronic AR was calculated for processed tomatoes using the PDP database, after all imported and Florida tomatoes have been removed. This left 375 samples collected from states in the US other than Florida. There were 9 with detected residues in this dataset, ranging between 0.005 ppm - 0.034 ppm, and averaging 0.018667 or summing to 0.168 ppm. The average percent crop treated on domestic tomatoes was 2%. This predicted 8 samples to have residues, which was just less than the number found, so no samples were assumed to be at ½ LOD. Therefore, a chronic AR was calculated for processed tomatoes at 0.168/375 = 0.00045 ppm.

Processing Factors for Tomatoes - Previous calculations for tomato processed commodities (N.Dodd, PP#4F03008, CBTS #10804, Barcode #D183901 (9/28/93) resulted in processing factors of 0.03 for juice and 0.1 for tomato paste, puree and catsup.

Walnuts/Pecans/Almonds/Filberts/Macadamia Nuts: A crop group tolerance for tree nuts is no longer supported and this assessment is therefore limited to these five nuts grown domestically. Acceptable field trials have been performed for chlorpyrifos on various tree nuts, primarily almonds and walnuts (MRIDs 00132786, 00044555, 00116675, 41424401). The results of the field trials are tabulated below (Table 6a). All results are measured as the total TCP common moiety expressed as chlorpyrifos. Combining almonds and walnuts provided 22 data points. Pecans, Filberts and Macadamia Nuts were translated from these. No LOD was reported for the method used in the field trials for nuts. Rather the sensitivity of the method was limited by the peak height found at the analyte retention time in the individual associated control samples. The corrected results in Table 6a were determined in the studies by subtracting the control results from the incurred results. Results of <0.025 meant that the results were <0.025 over the control results. Results reported as ND meant that the samples were not higher than the controls. Since the field trials clearly did not use averages of the control results, but used the highest control value in deciding whether a result was a reportable amount or ND, these highest results for the controls constituted the practical LOD. Except for a single control result at 0.042, all results were less than 0.026. The BEAD estimated that the average percents crop treated are 20% for almonds, 29% for pecans, 30% for walnuts and 6% for other tree nuts (filberts, Macadamia nuts). Using this information, anticipated residues were calculated at 0.015 ppm for walnuts, 0.010 for almonds, 0.014 for pecans and 0.0030 ppm for filberts and Macadamia nuts.

Table 6a. Results from Field Trials for Chlorpyrifos on Tree Nuts

RAC	Site	Treatment	Number of Treatments	Lbs/A	PHI	Number of Samples	Results in Nut Meat
Almonds	Modesto	foliar	3	1.6	14	2	ND x 2
	Modesto	foliar	3	2.0	14	2	ND x 2
	Modesto	foliar	3	1.6	14	2	.04, <0.025
	Modesto	foliar	3	2.0	14	2	.03, <.025
	Davis	foliar	3	2.0	14	4	.04 x 3, ND
	Davis	foliar	3	2.0	14	4	.04, .04, .09, ND
	Sanger	foliar	3	2.0	16	4	.05, .07, .03, .06
	Sutter	foliar	3	2.0	15	4	.05, .03, .03, <.025
	Davis	foliar	3	2.0	14	4	.08, .09 X 2, .11
	Davis	foliar	3	2.0	14	4	.08 X 2, .07 X 2
Walnuts	Davis	foliar	3	2.0	12	4	ND x 4
Walnuts	Davis	foliar	3	2.0	12	4	ND x 4
Walnuts	Davis	foliar	3	2.0	12	4	ND x 4
Walnuts	Davis	foliar	3	2.0	12	4	ND x 4
	Visalia	foliar	3	2.5	17	4	ND x 3, <0.025
	Butte City	foliar	3	2.0	14	2	ND x 2
Almonds	Modesto	dormant	1	4???	N/A	4	<.05 x 4
Almonds	Modesto	dormant	1	4???	N/A	3	<.05, 2 X ND
	Arbuckle	dormant	1	4???	N/A	4	2 X .05, 2 x <.05
	Arbuckle	dormant	1	4???	N/A	4	4 X ND
	Davis	dormant	1	4???	N/A	9	8 x ND, <.05
Walnuts	Davis	dormant	1	4???	N/A	4	4 X ND

Table 6b. Comparison of Treatments for Different Tree Nuts

RAC	Treatment	Number of Treatments	Lbs/A	PHI
Almonds	dormant	1	2.0	N/A
	dormant	1	1 - 3	N/A
	foliar	3	2	14
	tree trunk	2	.015 - .045/tree	14
	soil	2	4	14
Filbert	foliar	3	2	14
Macadamia	foliar	8	1	14
Pecans	foliar	5	1 - 2	28
	soil	5	1 - 2	N/A
Walnut	dormant	1	2	N/A
	foliar	2	2	14

Vegetables, Leafy, Brassica (cole) [Crop Group 5]Broccoli, Brussels sprouts, cabbage, cauliflower, and chinese cabbage: There are both PDP and FDA monitoring data for the cole crops. This crop group includes broccoli (PDP data), Brussels sprouts (translated from broccoli),cauliflower (translated from broccoli), cabbage (from FDA data), chinese cabbage(translated from cabbage), Bok choi (FDA data), collard (FDA data), kale (FDA data), and mustard greens (FDA data). Residues on kohlrabi were estimated from collard green residue data, since the application techniques and rates are similar, and were assumed to be 19% crop treated, as estimated by BEAD for root greens.

Broccoli: PDP collected 679 samples during the years 1994 through 1997. Of these, 11 (1.6%) contained detectable residues, averaging 0.009818 and summing to 0.108 ppm. BEAD estimated that an average of 41% of the broccoli crop is treated with chlorpyrifos. This yielded 11 detects plus 267 samples at ½ LOD of 0.00269, and 401 samples assumed to be zero, for an anticipated residue of 0.00122 ppm.

Brussels Sprouts: Brussels sprouts were translated from broccoli since their use patterns are similar. BEAD's most recent estimate of the average percent of crop treated is 73%, so the anticipated residue is the sum of the 11 detects from broccoli (0.108 ppm), the 267 at the ½ LOD of 0.002690 and a projected 103 at zero, for an anticipated average of 0.00217 ppm.

Cauliflower, Cabbage, Collards, Kale, and Bok Choi: During 1992-1997 FDA sampled all other Brassica crops except kohlrabi for chlorpyrifos. The FDA results are summarized in Table 7. FDA data for cauliflower, cabbage, collards, kale and bok choi were used directly for each of those commodities. Although there were slightly less than 100 samples (number of samples normally required for monitoring data to be used) for bok choi, 96 samples was considered acceptable. Data for collards were translated to kohlrabi and mustard greens with an adjustment

for percent crop treated. Note that label treatment rates and PHI's are virtually the same for all of these crops.

Table 7. FDA Data for Different Brassica

RAC	average % crop treated	Analyses	No. of Detects	Residue Values for Detects
cabbage	13%	491	8	0.070, 0.120, 0.0005, 0.010, 0.120, 0.135, 0.163, 0.043
cauliflower	31%	256	0	-
bok choi	assume 1%	96	1	0.200
collards	12%	147	4	0.0005, 0.020, 0.180, 0.020
kale	assume 1%	113	4	0.120, 0.010, 0.400, 0.145
mustard greens	assume 1%	85	1	0.100
kohlrabi	assume 1%	none reported	none reported	
TOTAL		1200	18	

The resulting calculations of anticipated residues are : 0.006 ppm for kale, 0.00136 ppm for cabbage (red, green, and chinese), 0.000046 ppm for cauliflower, 0.0015 ppm (from collards) for mustard greens, 0.0015 ppm for collards, 0.0015 ppm for kohlrabi, and 0.0021 ppm for bok choi.
Asparagus: FDA collected 692 domestic and imported samples of asparagus during the years 1993 - 1997. There were 18 detects (2.6%), ranging from 0.0005 ppm to 2.44 ppm, and averaging 0.230389 (sum = 4.309). Imported foods have not usually been included when using FDA data because FDA tends to over sample imports, but it was important to include imported asparagus in this assessment because exposure from imported asparagus is much higher than from domestic asparagus. Note that FDA also tested asparagus for chlorpyrifos in 1992, but compared to more recent years, there were an unusually high number of samples with residues detected that year (13 surveillance samples positive), and with some samples testing above the 5.0 ppm tolerance. The 1992 results were not used in this assessment because the lower pattern of detected residues in all the years since shows that this had been an enforcement problem in 1992 that apparently was brought under control in that year. Further note, however, that once again in 1998 FDA sampling, which has become available since this assessment was started, there are 2 import samples that contained residues at 0.5 ppm and at 6.5 ppm.

Of the 692 samples used in this assessment, 166 were from domestic sources with only two (1%) detected residues at 0.087 and 0.0005 ppm found. The other 526 samples (76%) were imported. About a third of asparagus in US markets (35%) is imported. Because of the disparity between the percent imported samples collected by FDA and the percent of imported asparagus in the US market, the imported samples were pro-rated against the domestic samples. That is, the domestic samples were counted 6 times, while imported samples were counted once. Thus, 996 projected domestic samples, containing 6 samples with detected residues at 0.087 ppm and 6 samples with detected residues at 0.0005 ppm, were combined with 526 imported samples and 16 detects, each counted just once, to yield a projected total of 1522 samples, with a projected 28 samples having measurable residues. The detects are projected to sum to 0.525 + 4.3955 = 4.9205.

BEAD's estimated average percent crop treated for chlorpyrifos on asparagus is 7%. Therefore an anticipated residue of 0.00313 ppm was calculated for chronic analysis using the combined import and domestic residues on asparagus.

Grapes, Fresh: The USDA Pesticide Data Program (PDP) monitored 1884 grape samples during the years 1994 to 1997 with 162 detects (8%). The highest detectable residue reported in grapes during this time period was 0.44 ppm, the average was 0.031673 ppm, and the sum was 5.131 ppm. The average percent crop treated from BEAD is 1%, and this implies fewer grapes treated than were actually found with residues, so none of the grapes were assumed to be at ½ LOD. The average residue on grapes was therefore 5.131/1884 = 0.00272 ppm, and this was used in the assessment.

Grape Juice: The anticipated residue of 0.00272 ppm calculated above for fresh grapes was used for grape juice with an added processing factor of 0.3 (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95).

Other Processed Grape Products: For grape **leaves** the grape AR with the DEEM default processing factor of 1.5 was used. For grape **raisins** the grape AR was used with the processing factor of 0.17 (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95).

For grape **wine** the grape AR of 0.00272 was used, but was modified with a processing factor of 0.02. As recommended by a commentor, this was taken from an open literature vinification study [C. Sala et al, *J. Agric. Food Chem 44*, 3668-3671, 1996)]. This study reported initial chlorpyrifos values of 93 ppm ppm in white wine and 1866 ppm in red wine just after pressing. The residues in the fresh, raw grapes were not reported. In both cases, further processing into wine yielded results below the limit of detection of the method used. Unfortunately, this lower limit of detection was not reported in the study, so it was necessary to assume that the non detects were at 2 ppm, that is, at ½ of the lowest of any reported residue of chlorpyrifos (of 4 ppm). This yielded processing factors of 0.2 for white wine and 0.001 for red wine. Because red and white wines are not separate in DEEM^{TM}, it was also necessary to apply the more conservative processing factor of 0.02 for white wine to the entire grape wine food category.

Bananas/Plantains: PDP analyzed 1126 samples of bananas during 1994 to 1997 with no samples above the limit of detection. BEAD indicated that an average of 13% of imported bananas are treated with chlorpyrifos. Incorporating the weighted average of ½ of the LOD at 0.00303 ppm and 13 percent crop treated results in an anticipated residue of 0.00039 ppm.

The FDA Total Diet Survey also found no detectable residues of chlorpyrifos in bananas in all 18 of their surveys conducted from 1991-1997. In addition, the tolerance for peeled bananas (0.01 ppm) is based on non-detectable residues. FDA, however, consistently found residues of chlorpyrifos on whole, unpeeled bananas in their residue surveillance program throughout the years 1992 - 1997, sometimes at higher concentrations than found in the field trials. This latter

evidence makes it clear that chlorpyrifos is so much used on bananas that the assumption of zero residues in the pulp is difficult to support, and it was decided to retain the above anticipated residue value, based upon setting ND equal to ½ LOD, for banana pulp samples.

Meat/Poultry/Eggs

Red Meat: The registrant did a market basket survey of ground beef, collecting 200 samples with an LOD of 0.002 ppm. Of 200 samples, 199 were ND and 1 sample had 0.0025 ppm chlorpyrifos. The assumption was made that chlorpyrifos was found in ground beef to about the extent it would be found in the whole animal muscle tissue. Although chlorpyrifos should tend to partition towards the fatty tissues, this assumption was made because the uncertainty in ground beef fat content and in the fat content of a whole beef carcass is larger than any difference between the two. *Handbook 8* indicates that whole beef carcasses usually have approximately 23 - 24 % fat. Ground beef can have as much as 30% fat, but is also frequently sold with less than 20% fat. Most ground beef ranges between 17 to 25% fat. No information was available about the fat content of the samples collected by the registrant. The anticipated residue for beef muscle is the average of the 200 results, at 0.001 ppm. This is corrected for the average percent crop treated for the nationally traded cattle feed with the highest percent crop treated. In the case of chlorpyrifos, almond hulls have been determined to be the appropriate feed item, with an average 20% crop treated. Correcting for percent crop treated in almond hulls yields an AR of 0.0002 ppm in beef muscle.

Because in the livestock feeding studies kidney and liver samples were generally ND, the conservative assumption was made that kidney, liver, and meat byproducts would have the same chlorpyrifos content as muscle. The AR for liver, kidney and beef by-products is thus 0.0002 ppm. Fat was assumed to have 5 times more chlorpyrifos incurred than the ground beef assayed in the market basket. This was based upon livestock feeding studies demonstrating that chlorpyrifos concentrates in the fat about 5 times the lean and the fact that ground beef usually contains somewhere around 17 - 25% fat. The AR for beef fat is therefore 0.001 ppm.

Gelatin: Gelatin is extracted from the skin, bones, etc of animals otherwise used for food. Most of it is most likely to be beef derived gelatin. Therefore, for gelatin the AR for beef muscle was used at 0.0002 ppm.

Pork Fat, Muscle, Kidney, Liver and Meat Byproducts: The registrant performed a market basket survey of 200 samples of pork sausage, finding 199 samples ND, and 1 sample with detectable residues at 0.0035 ppm. The same assumptions made for beef were made for pork. Whole hog carcasses average about 35% fat and pork sausage averages 40% fat. The pork fat was assumed to contain five times the amount of chlorpyrifos found in the pork sausage. This is a very conservative estimate based on the fact that chlorpyrifos tends to concentrate in fat over lean by a factor of about 5, and the fact that, according to *Handbook 8*, pork sausage usually has somewhere near 40% fat. The anticipated residue calculated for pork consisted of 199 samples at ½ LOD of 0.001 ppm and the one positive result of 0.0035 ppm with an average of 0.001 ppm.

This was corrected the highest percent crop treated of nationally traded feed items. Peanuts were used as the highest percent crop treated feed item, with an average 10% crop treated. This led to an AR of 0.0001 ppm in pork muscle. The same value was used for liver and other pork byproducts. The AR in pork fat is 0.0005 ppm.

Veal: Veal is only fed milk or milk replacer. Therefore, veal was accepted as containing essentially zero residues of chlorpyrifos, and was not entered in this assessment.

Poultry and Eggs: A poultry feeding study was submitted to the Agency (MRID 00095179). Groups of four hens were dosed with chlorpyrifos at 3 or 10 ppm in the diet for 30 days. Six samples per tissue composited from the four hens were analyzed. The limit of quantitation was 0.01 ppm with stated limit of detection of 0.001 ppm. Results are summarized below in Table 8.

Table 8. Results of Poultry Feeding Study.

Tissue	Dosing Level (ppm CPY)	
	3 ppm	10 ppm
Muscle	<0.01	<0.01 (0.005, 0.003, 0.003, 0.002, 0.002, 0.001)
Liver	<0.01	<0.01 (0.004, 0.004, 0.004, 0.002, 0.002, 0.002)
Kidney	<0.01	<0.01 (0.002, 0.001, 0.001, 0.001, 0.001, 0.001)
Fat	0.02	0.032 (0.047, 0.028, 0.026, 0.022, 0.020, 0.019)
Eggs	<0.01	<0.01

Table 9 below summarizes poultry feedstuffs on which chlorpyrifos may be used and availability on national feedstuffs markets.

Table 9. Poultry Feedstuffs, Percent of Crop Treated and National Availability.

RAC	Feedstuffs	% in Diet	% Crop Treated	Traded on Feedstuffs Markets[a]
Alfalfa	meal	10	3	Y
Corn, field	grain milled bypdt	80 60	7	Y
Cotton	meal	20	5	Y
Peanut	meal	25	10	Y
Sorghum	grain	80	2	Y
Soybean	seed meal hulls	20 40 20	1	Y
Wheat	grain milled bypdts	80 50	1	Y

[a] Listed in Ingredient Market, Feedstuffs Weekly Newspaper, 12/27/1999 issue.

Poultry Dietary Burdens and Anticipated Residues

The dietary burden used to calculate chronic anticipated residues for poultry commodities is shown below in Table 10. Percent of crop treated was used in determining this dietary burden, according to current HED policy.

Table 10. Theoretical Dietary Burden used to calculate anticipated residues for poultry commodities in the chronic dietary exposure assessment.

Feedstuffs	Percent in Diet	Residue (ppm)	Percent Crop Treated	Dietary Burden (ppm)
Alfalfa Meal	10	1.8	13	0.0054
Peanut Meal	15	0.02	10	0.0026
Wheat Grain	75	0.034	1	0.0003
Total				0.0083 ppm

Using the theoretical dietary burden of 0.21 ppm, anticipated residues for poultry commodities were calculated based on the results of the feeding study described above (values were extrapolated from the 10 ppm dosing level). Anticipated residues are summarized in Table 11 below.

Table 11. Anticipated residues for the chronic dietary exposure assessment

Poultry Commodity	Anticipated Residue (ppm)
muscle, liver, kidney	0.000002
fat	0.000027
eggs	0.000004

Cooking Factor for Meat and Poultry

Meat and poultry are almost never consumed raw in the United States, so application of a cooking factor was considered necessary. Chlorpyrifos can be depleted (i.e., residues reduced) in meat during cooking by: hydrolysis; volatilization; and, through drip loss of fat and juices. Because of the physical chemical properties of chlorpyrifos (high vapor pressure and lipophilicity), residue reduction from cooking meat is most likely to occur as a result of both volatilization and drip loss in fat.

Circa 1993, a series of three studies by J. Scott Smith, et al, [J. Ag Food Chem 41, 303-307 (1993), J. Ag. Food Chem 41, pp 1719-1723 (1993), J. Ag. Food Chem. 44, 3668-3671 (1994)] studied cooking effects on hydrolysis of chlorpyrifos in cooked meat. These studies may support residue reductions from cooking losses of about 10% due to hydrolysis. There is no empirical information available on residue reduction through drip losses. However, chlorpyrifos is highly lipophilic (log Kow = 5.2). Since meat products most frequently contain 15% - 30% fat, a residue reduction of about 20% would be a fairly conservative estimate of residue reduction

through drip loss, even without concentration in the fat. The best information on residues losses from volatility comes from a study on cooking rice by Su-Rae Lee et al, [J. Ag Food Chem. 1991, 906-908 (1991)]. This study indicated that losses due to volatilization in cooked rice were around 20%. Combining these three mechanisms of loss, meat and poultry products were given an estimated cooking residue reduction factor of 0.5X. A data call-in for confirmatory information on meat cooking factors is being issued by HED in the Chlorpyrifos RED.

Because the chlorpyrifos anticipated residues in fresh meat and poultry products were already very low, incorporation of these cooking factors for meat and poultry did not affect the final outcome of the exposure assessment.

Cherries, Sweet and Sour (tart): FDA analyzed 410 samples of cherries between 1992 - 1997. Of these samples, 55 were above the limit of detection for chlorpyrifos, and results ranged up to 0.257 ppm, with 10 of these results above the limit of quantitation. The remaining 45 trace (above limit of detection samples) are assumed to be at ½ the Limit of Quantification (LOQ), which is 0.0005 ppm for all FDA analyses of chlorpyrifos. Note that 43 of the 55 positive samples came from the Northwest (Oregon or Washington). According to BEAD, 24% of sweet cherries and 14% of tart cherries are treated with chlorpyrifos. The sweet cherry anticipated residue was calculated only for the fresh cherries and for cooked fresh cherry food forms. The tart cherry anticipated residue was calculated for all dried, canned or frozen cherry food forms. Because FDA did not specifically separate sweet and tart cherries in their monitoring program, it was necessary to use the same monitoring data for both varieties. For sweet cherry the anticipated residue was calculated using 312 zeros, 43 samples at ½ LOD of 0.00015 ppm, and 45 at ½ LOQ of 0.0005 ppm and 10 other quantified detects. For tart cherry the anticipated residue was calculated using 353 zeros, 2 at ½ LOD of 0.00015 ppm, 45 at ½ LOQ and 10 other quantified detects. The resulting anticipated residue for sweet cherries is 0.0012 ppm and sour (tart) cherries is 0.0012 ppm. The grape juice processing factor of 0.3 was applied for cherry juice. For dried cherries, the DEEM^{TM} default processing factor of 4.0 was retained.

Sweet and Field Corn:

Sweet Corn: BEAD has reported that, on average, 18% of the sweet corn crop grown for sale as fresh corn is treated with chlorpyrifos, while 7% of the sweet corn crop grown for commercial processing is treated with chlorpyrifos. In addition, separate data sets of FDA analyses of fresh sweet corn and PDP analyses of canned and frozen sweet corn were available. Between 1992 - 1997 FDA analyzed 713 samples of fresh sweet corn for chlorpyrifos and had **no positive findings**. Since BEAD reported 18% crop treated for fresh marketed sweet corn, an anticipated residue for fresh sweet corn was calculated from 585 samples at zero and 128 samples at ½ LOD of 0.00015 ppm, resulting in an anticipated residue of 0.000027 ppm. Between 1994 - 1997 PDP analyzed 1306 samples of canned or frozen sweet corn for chlorpyrifos and had **no positive findings**. The weighted average LOD for these samples is 0.004859 = 0.00243 for ½ LOD. Since BEAD found that 7% of sweet corn raised for processing was treated with chlorpyrifos, the

anticipated residue for canned/frozen sweet corn was calculated using 1215 zeros and 91 samples at ½ LOD, resulting in an anticipated residue of 0.00017 ppm.

Because both monitoring programs showed non-detectable residues (in over 2600 samples), an anticipated residue of zero chlorpyrifos in sweet corn has been used in the exposure analysis.

Field Corn Grain: The assessment used acceptable field trial data and percent crop treated to calculate a chronic anticipated residue in corn at 0.00077 based upon average field trial results of 0.011 ppm and average 7.0 % crop treated (MRID 00070509). To convert corn grain data to corn sugar and syrup a processing factor of 0.05 should be used (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95). To convert corn grain to corn oil a processing factor of 4.5x should be used (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95).

In addition, a processing factor of 0.22 was included for washing of corn grain endosperm. This is based upon a study [A. Tejada et al, *The Philippine Agriculturist, 73*: 375-385 (1990)] published in the open literature that was recommended by a commentor. In this study the author found that washing corn reduced chlorpyrifos residues from 0.92 ppm to 0.2 ppm and from 2.82 ppm to less than 0.0003 ppm, or using the conservative difference, by a factor of 0.22. In the same study this author found that residues on rice were reduced by a similar factor of 0.33. In addition, the rice grain washing factor was confirmed by a second study [S. Lee, *J. Agric. Food Chem. 39*: 906-908 (1991)], who found a factor of 0.4 for washing rice. Corn is either wet milled or dry milled. In wet milling, of course, the corn is extensively steeped, but the foods listed in DEEM™ under corn, grain endosperm are probably all dry milled. According to S. Watson & P. Ramstad in *Corn, Chemistry and Technology*, prior to dry milling all corn grain is dry cleaned with air jets, aspiration, and screens, then wet cleaned to remove dirt, dust and rodent excreta.

Cottonseed Oil: The average percent crop treated provided by BEAD (Memo 11/98, T. Keilly) for cottonseed is 5%. An average residue on cottonseed from the cotton field trials was 0.12 ppm. In addition, a reduction factor of 0.375 was calculated for processing cottonseed into refined cottonseed oil. (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468.) From this information a chronic anticipated residue was calculated at 0.0023 ppm (5%* 0.375 *0.12 ppm).

Cucurbits, Cucumbers/Pumpkins: FDA analyzed cucumber samples for chlorpyrifos from 1992 to 1997. They reported results for 407 samples, with one positive finding of 0.080 ppm. BEAD estimated that 1% of the crop was treated. A chronic anticipated residue of 0.000198 ppm was calculated using 403 zeros, 3 samples at ½ LOD of 0.00015 ppm and the 1 measured residue at 0.080 ppm. Since pumpkin monitoring data is not available and cucumbers application rate and PHI is similar, the cucumber AR was translated to pumpkins.

Figs: No monitoring data are available for chlorpyrifos use on figs. The BEAD estimated maximum percent crop is 1%. Tolerance (0.01 ppm) was used as a default residue value directly

multiplied by percent crop (0.01) treated resulting in an AR to used in the chronic dietary risk assessment of 0.0001 ppm .

Legume Vegetables, succulent or dried (except soybeans) Dried Beans and Peas: The tolerance for dried legumes is 0.05 ppm. The anticipated residue was calculated by using ½ tolerance (since there were no detectable residues in the field trial study) times 1% crop treated for all of the dried bean/peas blended commodities. The anticipated residue therefore was ½ tolerance of 0.025 ppm X 1% CT = 0.00025 ppm.

Succulent Peas: EPA used the PDP data from 1994 to 1996 provided by the USDA, who analyzed 1458 samples of sweet peas. There was 1 (0.3%) measurable residue at 0.005 ppm and BEAD's estimated percent crop treated for peas is 1 %. The mean residue in succulent peas was calculated from the one measured residue at 0.005 ppm, 14 values @ ½ LOD, and the remaining 1443 values at 0. The resulting chronic anticipated residue used for succulent peas thus was 0.000033 ppm.

Beans, **Green:** EPA used the PDP data from 1994 to 1995 provided by the USDA, which consisted of 1178 samples of green beans. There were no detects and BEAD's estimated percent crop treated for peas is 1 %. The mean residues in succulent peas were calculated 12 values @ ½ LOD, and the remaining 1166 values at 0. The chronic anticipated residue used for succulent beans was therefore 0.000032 ppm.

Milk, fat, whole: Tolerances for residues of chlorpyrifos per se in milk are established as: Milk, whole - 0.01 ppm; Milk, fat - 0.25 ppm. These tolerances were proposed by DowAgroSciences in PP#3F2884 and the Agency concurred (58FR19354, 4/1/93).

Residue Monitoring Data

Monitoring data for whole milk are available from both the USDA Pesticide Data Program (1996-1998), the FDA (1995-1998) and the DAS National Food Survey (1993-1994). **All of the samples analyzed by these programs had non-detectable residues**. Because the results of the monitoring programs are in agreement, the anticipated residue for whole milk is zero.

Table 12. Summary of PDP Monitoring Data for Milk.

Year	Number of Samples Analyzed	Number of Detects	Limit of Detection	Half of Weighted Limit of Detection
PDP Data				
1996	570	0	0.001-0.002 ppm	0.000723 ppm
1997	727	0		
1998	593	0		
FDA Data				

1995	606	0	0.0003 ppm	0.00015 ppm
1996	455	0		
1997	298	0		
1998	137	0		

Table 13. Summary of DOW NFS monitoring Data for Milk.

Year	Number of Samples Analyzed	Number of Detects	Limit of Detection	Half Limit of Detection
1993-1994	200	0	0.001 ppm	0.0005 ppm

Peaches: For fresh peaches, EPA used the PDP data provided by the USDA. The total number of peaches sampled in PDP during the years of 1994 to 1997 was 1087. The BEAD estimated average percent crop treated is 11%. PDP sampling resulted in 130 samples with detections averaging 0.009169 ppm and summing to 1.192 ppm. Because 130 samples in 1087 are 12%, which is greater than 11%, no samples are taken to be at ½ LOD and all non-detects are assumed to be zero. For dietary exposure in a chronic risk assessment the anticipated residue for peaches is 0.0011 ppm.

Peaches - Canned/Frozen During 1997 PDP also analyzed 708 samples of canned peaches with no positive findings. As noted before, BEAD estimates that 11% of peaches are treated with chlorpyrifos. Therefore, 78 samples were set at the weighted ½ LOD of 0.0025. The remainder of 589 samples were set at zero resulting in an anticipated residue of 0.000275 ppm. These data were used for canned/frozen peaches, but not for peach juice.

Peach Juice and dried peaches: The AR for fresh peaches, 0.0011 ppm, was used. For peach juice, the DEEM default processing factor of 1.0 was used. For dried peaches, the DEEM default processing factor of 7.0 was used.

Nectarines: EPA translated the PDP peach data to nectarines. BEAD has estimated that, on average, 8% of nectarines are treated with chlorpyrifos. For 130 detects, a total of 1625 samples, or 1495 zeros, were projected from this %CT. The AR for nectarines was thus 0.00073 ppm.

Plums: EPA also translated the PDP peach data to plums. BEAD has estimated that, on average, 5% of plums are treated with chlorpyrifos. Using this %CT to translate the peach data, a total of 2600 samples was projected from 130 detects, and led to an estimated AR for fresh plums at 0.00046 ppm. Regarding prunes (dried plums), although there is an acceptable processing study for producing prunes from plums, it shows only that there is no concentration in the prunes. It cannot be used as a source of a processing factor for dried prunes or related dried fruits. Therefore, the DEEM default factor was used for prunes.

Plums, Canned: The data for canned/frozen peaches were translated to canned, frozen and cured plums. Since 708 canned peaches samples were tested by PDP, with no detects at 1/2 LOD of 0.0025 ppm, application of a 5% crop treated factor for canned plums yielded an AR of 0.000125 ppm.

Peanuts: During the years 1992 to 1997 FDA analyzed 102 samples of peanuts, with 6 detectable residues (6%) that ranged up to 0.04 ppm, averaged 0.017 ppm, and summed to 0.102 ppm. BEAD estimates that an average of 10% of peanuts are treated with chlorpyrifos, therefore four non detects were calculated as ½ the LOD at 0.00015 and the remainder were taken to be zero. This yielded an anticipated residue of 0.001 ppm.

Peanut butter: The EPA has used the registrants' market basket survey for information on residues of chlorpyrifos in peanut butter. Although commercial peanut butter and the DEEM™ food form "peanuts, butter" apparently do not have exactly the same recipe, EPA believes that the value of using the direct monitoring data on peanut butter outweighs any error that may be introduced by a slightly different recipe. The registrant tested 200 samples of peanut butter and found 169 of them to have detectable residues, with an average of 0.005291 ppm and summing to 1.058 ppm. BEAD has estimated that 10% of peanuts are treated with chlorpyrifos. Since this is far less than the number of detects, no samples were taken at ½ LOD. (The discrepancy between percent crop treated and the number of detects may be due to the mixing of peanuts with and without residues in the manufacture of peanut butter.) The AR was estimated as the average of 169 detects and 31 zeros, yielding an AR of 0.0051 ppm.

Peanut Oil: For peanut oil, the peanut AR was used with a processing factor of 2.0. The Chlorpyrifos Registration Standard described an adequate peanut processing study in which peanut nut meat bearing chlorpyrifos residues at 0.03 ppm were processed into crude, refined, and pressed peanut oil which were found to contain 0.06 ppm, 0.05 ppm, and 0.07 ppm chlorpyrifos respectively (2X concentration for oil). (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468)

Pears: The PDP analyzed 708 composite pear samples for the year 1997 with 13 (2%) detects, having an average of 0.017923 ppm, a sum of 0.233 ppm, and the peak residue at 0.054 ppm. The estimated average percent crop treated from BEAD's 9/27/99 memo is 13%. From this it was assumed that 79 of the samples were at 1/2LOD of 0.003, and that number plus the sum of the detects, at 0.233 ppm divided by 708 total samples yielded an AR of 0.00066 ppm. These results were used for all pear food forms**.**

Cooked and Dried Pears and Pear Juice: The reduction factor of 0.15 for removal of peel from cooked apples was also applied to cooked and frozen pears. For dried pears, the DEEM™ processing factor of 6.25 for dried pears was combined with the 0.15 peeling factor to yield an adjustment factor of 0.94. For pear juice the DEEM™ processing factor is 1.

Radishes: The current and reassessed tolerance for radishes is 2 ppm. During the years 1992 - 1997 FDA analyzed 118 samples of radishes and detected 13 samples (11%) with detectable residues. These averaged 0.039038 ppm, summed to 0.5075 ppm and the highest detectable residue was 0.099 ppm. BEAD estimates that an average of 14% of all roots and tubers are treated with chlorpyrifos. Based on this estimate, an anticipated residue was calculated with 101 zeros, 4 of the non detects set at the ½ LOD of 0.00015 ppm, and 13 residues above the limit of detection, resulting in an AR value of 0.0043 ppm.

Sweet Potatoes: EPA used the PDP data from 1994 - 1996 provided by the USDA. PDP analyzed 1202 samples of sweet potatoes with a ½ LOD of 0.0029 ppm. There were 129 positive findings (10 %), that averaged 0.009349 ppm, and summed to 1.206 ppm. BEAD estimates an average of 14% of all root and tuber crops are treated with chlorpyrifos. The calculated anticipated residue for sweet potato from 129 detects, 39 ½ LOD and 1034 zeroes was 0.0011 ppm. A peeling factor of 0.015 was translated from apples to canned food forms of sweet potatoes.

Rutabagas/Turnips: The current and reassessed tolerance for rutabagas is 0.5 ppm. All roots and tubers have an average estimated 14% crop treated. All roots and tubers, including rutabagas and turnips were translated from PDP data on sweet potatoes. With the same percent crop treated, the same anticipated residue of 0.0011 ppm was used on rutabaga roots. Rutabaga greens treated with chlorpyrifos may not be sold for human consumption.

Root (Turnip, Radish) greens: Collard greens were used as a surrogate while retaining percent crop treated for roots and tubers, 14% from BEAD. The 4 detects, 17 samples at ½ LOD of 0.00015 and 126 zeroes resulted in a calculated AR of 0.0015 ppm.

Soybean grain: Although there are PDP data on soybean grain, these data were not acceptable for risk assessment purposes because there was incomplete (and therefore uneven) sampling that had been discontinued due to budget constraints. Field trial data are available in MRID #00095270 depicting residues of chlorpyrifos per se in/on soybeans. Only one field trial reflects current label rates (maximum seasonal application rate of 3 lb ai/A and 28 day PHI). The other 5 available field trials reflect higher application rates (5 lb ai/A) and slightly longer PHIs (28-38 days). The average residue for these field trials is 0.032 ppm x 1% crop treated resulting in an anticipated residue of 0.00032 ppm. The data are summarized below in Table 17.

Table 14. Soybean Field Trials

Location	Application rate (lb ai/A)	PHI (Days)	ppm Chlorpyrifos (3 values separated by commas)
MS	3	28	0.004, 0.002, 0.003
IL	5	28	0.016, 0.009, 0.011
GA	5	30	0.001, 0.010, 0.003
IA	5	30	0.024, 0.052, 0.017
NE	5	31	0.010, 0.008, 0.005
NC	5	38	0.014, 0.240, 0.142

Soybean Oil: The soybean AR value of 0.00032 ppm was used for soybean oil with a processing factor of 0.14x. (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95).

Strawberries: During the years 1992 to 1997 FDA analyzed 723 samples of strawberries with 8 (1%) residue samples above the limit of detection. These detectable residues averaged 0.0183 ppm and summed to 0.146 ppm. They ranged up to 0.043 ppm. BEAD estimates that an average of 6% of the strawberries are treated with chlorpyrifos. The anticipated residue was calculated by using 636 zeros, 35 set at the weighted ½ LOD of 0.00015 PPM, and the 8 positive findings resulting in 0.00021 ppm. Strawberry juice used this same AR and was adjusted with the grape juice processing factor of 0.3.

Beets, Sugar, Molasses: Sugar beets are treated similarly to other roots and tubers, except sugar beets are 8% crop treated. There is very little FDA data available on sugar beets, and no data from PDP. Therefore, the data from sweet potatoes were translated to sugar beets. Correction for 8% crop treated resulted in an anticipated residue of 0.000628 ppm for the chronic dietary exposure risk assessment.

The Chlorpyrifos Second Round Review noted that data reviewed in the Chlorpyrifos Registration Standard demonstrated that residues are not likely to concentrate in refined sugar processed from treated sugar beets. However, because chlorpyrifos residues were non-detectable in sugar beets used in the processing study and in the processed fractions obtained from these sugar beets, a reduction factor cannot be calculated.

Therefore, HED carefully considered a comment that an open literature study [P. Cabras et al, *J Ag. Food Chem. 43*, 2613-2615 (1995)], which shows the effectiveness of activated carbon in removing chlorpyrifos-methyl from wine, could translated for use with the decolorization step of sugar refining. HED agrees with this opinion. The study shows that use of activated charcoal reduced residues of chlorpyrifos-methyl from 0.11 ppm to 0.09 ppm in decolorizing white wine. HED therefore employed a processing factor of 0.1 to chlorpyrifos residues in refining sugar beet to sugar to account for the decolorizing step.

Wheat, grain: USDA PDP sampled wheat from 1995 - 1997. There were 1573 samples, with 206 (13%) detects, with 1 positive finding and 184 that were trace findings. All non-detects were set at ½ LOD (weighted average LOD = 0.00482). An anticipated residue calculated for wheat grain was 0.0032 ppm, deriving from the 206 residue values above the limit of detection (avg of 0.008403 ppm) and 1367 results at ½ LOD of 0.00241 ppm. Note that FDA also sampled wheat and had very similar results to those found by PDP.

The data from wheat were also used for wheat flour by incorporating a processing factor of 0.145 (Flood, M. PP#3F2947, 8/10/92). In addition, HED has concluded that processing factors for chlorpyrifos methyl in wheat (Sarah Levy, November 1, 1999, Revised Chlorpyrifos Methyl: Residue Chemistry Chapter of the RED, DP Barcode D259808) could also be used for chlorpyrifos in wheat. The factors used from this document were 0.86 for cleaned rough wheat, 3 for bran, 2.7 for wheat germ, and 0.026 for boiled wheat products.

Mint Oil: Residues in mint oils (spearmint and peppermint) were calculated using the tolerance for chlorpyrifos on mint hay of 0.8 ppm, a processing factor of 10 (MRID 00034031), and a BEAD estimated average percent crop treated of 19%. This resulted in an anticipated residue of 1.52 ppm to be used for a chronic dietary exposure risk assessment**.**

Food Handling Establishment Per HED policy, when food handling establishment uses exist, a chronic risk assessment must be performed that includes residues based upon the likelihood of contamination at food handling establishments. An acceptable food handling study has been performed. Results on all produce were ND, with an LOD of 0.02 ppm. Therefore, for purposes of this chronic dietary exposure assessment, the ½ LOD of 0.01 ppm has been combined with an estimate that 1% of establishments are treated, to estimate residues of 0.0001 ppm on all foods not already estimated to have residues from upon field treatment. This is a very conservative estimate of residues expected from food handling uses and provides an upper bound estimate for these residues.

Commodities which are not currently registered for use with Chlorpyrifos:
For a number of commodities for which no chlorpyrifos tolerances have been established, PDP has found residues in more than one year of sampling. These include spinach, squash, and carrots. Residues were also detected in celery (4 samples in 1994, 0.005 - 0.045 ppm), potatoes (1 sample in 1994, 0.024 ppm), and lettuce (1 sample in 1994 at 0.01 ppm). An additional set of dietary exposure assessments have been performed including results for squash, spinach and carrots - three commodities frequently fed to infants and children. Celery, lettuce and potatoes were not included.

Chlorpyrifos is not registered for use on these three crops and there is no estimated percent crop treated to be incorporated. Therefore, ARs were estimated by simply averaging the sum of the measured results across the total number of samples collected. The resulting residue data for these three commodities are summarized as follows:

Spinach resulted in an average value of 0.000514 ppm from 1995-1997 PDP data.
Squash resulted in an average value of 0.0149 ppm from 1997 PDP data.
Carrots resulted in an average value of 9.8×10^{-05} from 1994, 1995, and 1996 PDP data.

When these additional crops were included in an assessment, the results were not significantly different from the results of the original assessments.

Table 15 summarizes anticipated residues used in the chronic dietary exposure analysis.

Table 15. Summary of Chronic Anticipated residues.

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
cranberries, fresh	1.0	46	N/A	Cranberry Institute data	0.0202
cranberries, cooked/canned/frozen			DEEM default = 1	from fresh cranberries	0.0202
cranberry juice			grape juice factor 0.3	from fresh cranberries	0.0202
grapes, fresh	1.0	1	N/A	PDP	0.00286
grapes, cooked/canned/frozen			DEEM default 1	from fresh grapes	0.00286
grapes, juice			0.3 (previous EPA PF)	from fresh grapes	0.00286
dried grapes (raisins)			0.17 (previous EPA PF)	from fresh grapes	0.00286
strawberries	0.2	6	N/A	FDA	0.00021
strawberry juice			0.3 (from grape juice)	from strawberries	0.00021
citron	1.0	16	N/A	from fresh oranges	0.00073
grapefruit, fresh peeled fruit	1.0	12	N/A	from fresh oranges	0.00055
grapefruit, canned/frozen			DEEM default = 1	from fresh oranges	0.00055
grapefruit peel			8 (from open literature	from fresh oranges	0.00055
grapefruit juice			1.0 from OJ	from orange juice	0.000165
kumquats	1.0	16	N/A	from fresh oranges	0.00073
lemons, fresh peeled fruit	1.0	30	N/A	from fresh oranges	0.0014
lemons, canned/frozen			DEEM default = 1	from fresh oranges	0.0014

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
lemon, peel, fresh or cooked			15 (from open literature)	from fresh oranges	0.0014
lemon, peel, canned/frozen			15 (from oranges)	from fresh oranges	0.0014
lemons, juice			1.0 from OJ	from orange juice	0.00041
limes, fresh peeled fruit	1.0	16	N/A	from fresh oranges	0.00073
limes, peel			15 (from oranges)	from fresh oranges	0.00073
limes, juice			1.0 from OJ	from orange juice	0.00022
oranges, fresh peeled fruit	1.0	41	N/A	PDP, oranges for eating fresh	0.0012
oranges, cooked		41	DEEM default = 1	PDP, oranges for eating fresh	0.0012
oranges, canned/frozen		7	DEEM default = 1	PDP, oranges for processing	0.0005
orange peel, fresh		41	15 (from open literature)	from fresh oranges	0.0012
orange peel, cooked		41	15 (from open literature)	from fresh oranges	0.0012
orange peel, canned/frozen		7	15 (from open literature)	from oranges for processing	0.0005
orange juice		7	N/A	NFS	0.00012
tangelos	1.0	16	N/A	from fresh oranges	0.00073
tangerines, fresh peeled fruit	1.0	16	N/A	from fresh oranges	0.00073
tangerines, canned/frozen			DEEM default = 1	from oranges for processing	0.00073
tangerine juice			1.0 from OJ	from orange juice	0.00022
Almonds, fresh/cooked/dried/frozen	0.2	20	all FF 1.0	Field Trial	0.01

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
filberts, fresh/cooked	0.2	6	all FF 1.0	from almonds and walnuts	0.003
pecans, fresh/cooked	0.2	29	N/A	from almonds and walnuts	0.014
walnuts, fresh/cooked	0.2	30	all FF 1.0	Field Trial	0.015
Macadamia nuts, fresh/cooked	0.2	30	all FF 1.0	from almonds and walnuts	0.003
apples, fresh	1.5 ppm	44	N/A	PDP	0.00635
file #2 apples, fresh				NFS	0.0042
apples, canned/frozen			DEEM default = 1	from fresh apples	0.0005
fresh apples, dried			1.2	from fresh apples	0.00635/ 0.0042
apples, dried			1.2	from fresh apples	0.00635/ 0.0042
apple juice			Direct Monitoring	NFS	0.00032
pears, fresh	0.05	13	N/A	PDP(single fruits analyzed)	0.00066
pears, canned/frozen			0.15 apple peel factor	PDP	0.00066
pears, dried			DEEM 6.25 x 0.15 = 0.94	from the fresh pears	0.00066
cherries, fresh	1.0	24	N/A	FDA, sweet cherries	0.0012
cherries, cooked		14	DEEM default = 1	from fresh, sweet cherries	0.0012
cherries, canned/frozen		14	DEEM default = 1	from fresh, tart cherries	0.0012
cherries, dried		14	DEEM default = 4.0	from fresh, tart cherries	0.0012
cherry juice		14	grape juice factor = 0.3	from fresh, tart cherries	0.0012
nectarines	0.05	8	N/A	from fresh peaches	0.00073

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
peaches, fresh	0.05	11	N/A	PDP	0.0011
peaches, cooked			DEEM default = 1	PDP	0.0011
peaches, canned/frozen			DEEM default = 1	PDP	0.000275
peaches, dried			DEEM default = 7.0	from fresh peaches	0.0011
Peach Juice			DEEM default = 1		0.0011
plums, fresh	0.05	5	N/A	from fresh peaches	0.00046
plums, cooked			DEEM default = 1	from fresh peaches	0.00046
plums, canned/frozen/cured			DEEM default = 1	from canned peaches	0.000125
prunes (dried plums)			DEEM default = 5.0	from fresh peaches	0.00046
plum/prune juice			DEEM default = 1.4	from fresh peaches	0.00046
figs	0.01	1	N/A	tolerance x %CT	0.0001
kiwi, fresh	2.0	100	0.15 (apple peeling)	from FDA	0.0213
kiwi, canned/frozen			0.15 (apple peeling)	from fresh kiwi	0.0213
cucumbers, fresh	0.05	1	N/A	FDA	0.000198
cucumbers, cooked			DEEM default = 1	from fresh cucumbers	0.000198
cucumbers, canned/pickled			DEEM default = 1	from fresh cucumbers	0.000198
pumpkins, fresh	0.05	1	N/A	from fresh cucumbers	0.000198
pumpkins, cooked			DEEM default = 1	from fresh cucumbers	0.000198
pumpkins, canned	not a RAC		DEEM default = 1	from fresh cucumbers	0.000198

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
peppers, fresh sweet	1.0	2	N/A	FDA	0.0083
peppers, cooked/processed sweet	not a RAC		DEEM default = 1	from bell peppers	0.0083
peppers, fresh hot	1.0		N/A	from bell peppers	0.0083
peppers, hot, cooked			DEEM default = 1	from bell peppers	0.0083
peppers, hot, canned/frozen/ pickled			DEEM default = 1	from bell peppers	0.0083
peppers, other	1.0		N/A	from bell peppers	0.0083
tomatoes, fresh	1.0	2 (US) 26 (Imp)	N/A	PDP	0.0041
tomatoes, whole cooked			DEEM default = 1	from fresh tomatoes	0.0041
tomatoes, whole canned/frozen			DEEM default = 1	from fresh tomatoes	0.0041
tomato juice			0.03 (prior EPA PF)	from fresh tomatoes	0.00045
tomato, puree			0.1 (prior EPA PF)	from fresh tomatoes	0.00045
tomato, paste			0.1 (prior EPA PF)	from fresh tomatoes	0.00045
tomato, catsup			0.1 (prior EPA PF)	from fresh tomatoes	0.00045
broccoli, fresh	1.0	41	N/A	PDP	0.00122
broccoli, cooked			DEEM default = 1	from broccoli	0.00122
broccoli, canned/frozen			DEEM default = 1	from broccoli	0.00122
Brussels sprouts	1.0	73	N/A	FDA	0.00217
cabbage, fresh	1.0	13	N/A	FDA	0.00136
cabbage, cooked			DEEM default = 1	from fresh cabbage	0.00136

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
cabbage, canned/cured			DEEM default = 1	from fresh cabbage	0.00136
cauliflower, fresh	1.0	21	N/A	FDA	0.000046
cauliflower, cooked			DEEM default = 1	from cauliflower	0.000046
cauliflower, frozen			DEEM default = 1	from cauliflower	0.000046
collards, fresh	1.0	12	N/A	FDA	0.0015
collards, cooked			DEEM default = 1	from collards	0.0015
collards, canned/frozen			DEEM default = 1	from collards	0.0015
kale, fresh	1.0	1	N/A	FDA	0.006
kale, cooked			DEEM default = 1	from kale	0.006
kale, canned			DEEM default = 1	from kale	0.006
kohlrabi	1.0	1	N/A	from collards	0.0015
mustard greens	1.0	1	N/A	from collards	0.0015
turnip greens	0.3	14	N/A	from collards	0.0015
grape leaves		1	DEEM default = 1.5	grape tolerance	0.00286
onions, dry bulb, fresh	0.5	13	N/A	FDA	0.00002
onions, dry bulb, cooked			DEEM default = 1	from fresh onions	0.00002
onions, dry bulb, canned/frozen			DEEM default = 1	from fresh onions	0.00002
onions, dried			DEEM default = 9.0	from fresh onions RDF	0.00002
radishes (roots)	2.0	14	N/A	from sweet potatoes	0.0043
radish greens		14	N/A	from collards	0.0015
rutabagas (roots)	0.5	14	N/A	from sweet potatoes	0.0011

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
sweet potato, fresh	0.05	14	N/A	PDP	0.0011
sweet potato, cooked			DEEM default = 1	from sweet potatoes	0.0011
sweet potato, canned/frozen			0.15 apple peeling factor	from sweet potatoes	0.0011
turnips (roots)	1.0	14	N/A	from sweet potatoes	0.0011
beans, dried	0.05	1	N/A	tolerance x %CT	0.00025
dried beans, cooked/processed			DEEM default = 1	tolerance x %CT	0.00025
beans, succulent	0.05	1	N/A	PDP	0.000032
succulent beans, cooked/processed			DEEM default = 1	PDP	0.000032
succulent broad beans	0.05	1	N/A	from green beans	0.000032
dried peas	0.05	1	N/A	tolerance x %CT	0.00025
dried peas, cooked/processed			DEEM default = 1	tolerance x %CT	0.00025
sweet peas, fresh	0.05	1	N/A	FDA	0.000033
sweet peas, cooked			DEEM default = 1	PDP	0.000033
sweet peas, canned/frozen			DEEM default = 1	PDP	0.000033
lentils, cooked	0.05	1	N/A	from dried beans	0.00025
mung beans	0.05	1	N/A	from dried beans	0.00025
beans, unspecified	0.05	1	N/A	from fresh green beans	0.00032
soybean sprouts	0.3	1	DEEM default = 0.33	from soybean grain	0.00032
asparagus, fresh	0.3	7	N/A	FDA	0.00313
asparagus, cooked			DEEM default = 1	from asparagus	0.00313
asparagus, canned/frozen			DEEM default = 1	from asparagus	0.00313

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
corn grain	0.05	7	0.22 (from open literature)	field trials	0.00077
corn grain, cooked/processed			0.22 (from open literature)	from corn grain	0.00077
corn grain bran			DEEM default = 1	from corn grain	0.00077
corn grain sugar			0.05 (prior EPA PF)	from corn grain	0.00077
wheat grain	0.5	1	N/A	FDA	0.0032
wheat grain, cooked/processed			DEEM default = 1	from wheat grain	0.0032
wheat bran			DEEM default = 1	from wheat grain	0.0032
wheat flour			0.145 (prior EPA PF)	PDP	0.0032
wheat flour, cooked/processed			0.145 (prior EPA PF)	from wheat flour	0.0032
sugar beets (roots)	1.0	8	0.1 (from open literature)	from sweet potatoes	0.000628
corn oil			processing study 4.5	from corn grain	0.00077
cottonseed oil		5% of RAC cotton	processing study 0.375	1995 AR	0.0023
peanut oil		10	processing study 2.0	1995 AR	0.001
sunflower oil		1	processing study 1.0	1995 AR	0.00046
soybean oil		1	processing study 0.14	1995 AR	0.00032
soybean, other		1		from soybeans	0.00032
soybeans (seeds), fresh	0.3	1	N/A	field trials	0.00032
soybean (seeds) cooked/processed			DEEM default = 1	from soybeans	0.00032

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
soybean flour, full fat			DEEM default = 1	from soybeans	0.00032
soybean flour, low fat			DEEM default = 1	from soybeans	0.00032
soybean flour, defatted			DEEM = 1 default	from soybeans	0.00032
peppermint oil		19% of RAC mint	processing study 10	field trial	1.52
spearmint oil		19% of RAC mint	processing study 10	field trial	1.52
grapes, wine			0.02 (from open literature)	from (PDP) grapes	0.00286
gelatin			DEEM default = 1	from beef	0.0002
beef products and byproducts	0.05		N/A	registrant's market basket for ground beef	0.0002
beef fat	0.3		N/A	from beef	0.001
goat products and by products	0.05		N/A	from beef	0.0002
goat fat	0.3		N/A	from beef	0.001
horsemeat	0.05		N/A	from beef	0.0002
sheep products and byproducts	0.05		N/A	from beef	0.0002
sheep fat	0.3		N/A	from beef	0.001
pork products and byproducts	0.05		N/A	registrants market basket for pork sausage	0.0001
pork fat	0.2		N/A	from market basket for pork sausage	0.0005
poultry products and byproducts	0.1		N/A	calculated AR	0.000002
poultry fat			N/A	AR	0.000027

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
chicken products and byproducts	0.05		N/A	AR	0.000002
chicken fat			N/A	AR	0.000027
turkey products and byproducts	0.1		N/A	AR	0.000002
turkey fat	0.05		N/A	AR	0.000027
eggs, whole	0.01		N/A	AR	0.000004
egg whites			N/A	AR	0.000004
egg yolks			N/A	AR	0.000004
apple juice concentrate			DEEM default = 3.0	from apple juice	0.00032
savoy cabbage	1.0		N/A	from cabbage	0.00136
corn grain sugar			0.05 (prior EPA PF)	from corn grain	0.00077
cranberry juice concentrate			DEEM ratio = 1	from fresh cranberries	0.0202
grape juice concentrate			DEEM ratio = 0.9	from fresh grapes	0.00286
peach juice			DEEM default	from fresh peach	0.0011
peanuts, butter			use NFS data directly	NFS	0.0051
pear juice			DEEM default	from fresh pears	0.00066
Japanese radishes	2.0	14	N/A	from sweet potato	0.0043
snowpeas	0.05	1	N/A	from succulent beans	0.000033
strawberry juice			grape juice factor = 0.3	from strawberry	0.00021
sunflower seeds	0.25	1	N/A		0.00046
sweet potato leaves		19	N/A	from collards	0.0011

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
tangerine juice concentrate			DEEM ratio = 3.2	from orange juice	0.00022
tomatoes, dried			14.3	from tomatoes	0.00045
walnut oil			DEEM default = 1	from almonds and walnuts	0.015
wheat germ oil			DEEM default = 1	from wheat grain	0.0032
grapefruit juice concentrate			DEEM ratio = 3.93	from orange juice	0.000165
lemon juice concentrate			DEEM ratio = 5.7	from orange juice	0.00041
lime juice concentrate			DEEM ratio = 3.0	from orange juice	0.00022
grapefruit peel			N/A	from fresh oranges	0.00055
Chinese broccoli	1.0	1	N/A	from broccoli	0.00122
bok choi	1.0	1	N/A	FDA	0.0015
bananas	0.1 whole, 0.01 in pulp	13 import	N/A	PDP	0.00039
banana juice			DEEM default = 1	from bananas	0.00039
bananas, dried			DEEM default = 3.9	from bananas	0.00039
green plantains	0.01	13 import	N/A	from bananas	0.00039
plantains, dried			DEEM default = 3.9	from bananas	0.00039
soy protein isolate			DEEM default = 1	from soybeans	0.00032
soy protein isolate, further cooked/processed			DEEM default =1	from soybeans	0.00032
radishes oriental	2.0	14	N/A	from sweet potatoes	0.0043

Commodity	Tolerance (ppm)	% Crop Treated	Processing Factor	Source of Data for Assessment (PDP, FDA, etc)	Data Entered into Assessment
peanuts, hulled	0.2	10	N/A	FDA	0.001
peanuts, cooked/frozen			DEEM default	from peanuts	0.001

Results/Discussion

For the US population, and all population subgroups, the refined chronic dietary exposure estimates were less than 100% of the cPAD, even when including the maximum expected residues from food handling establishment use of chlorpyrifos. For exposure estimates including the FHE use, the percent of the cPAD that was occupied ranged from 3.1% for males 20+, to 82% for children 1-6 years old. Children 1-6 were the population subgroup with the highest exposure in all scenarios. Exposure estimates without the FHE uses were lower, with children 1-6 years old having 60% of the cPAD occupied.

Using PDP data for apples, nearly half of the total exposure for children 1-6 came from four foods: apples (25% of total), tomatoes (12% of total), peanut butter (6% of total), and wheat flour (5% of total). Incorporating the FHE uses made a slight difference, causing apples to fall to 19%, tomatoes to 9% of total, etc, and causing white potatoes to become 7% of projected total exposure.

Use of the registrant's NFS market basket survey apple data in place of the PDP apple data had a slight effect on chronic exposure. With this NFS data the exposure for children 1-6 changed from 62% of the cPAD to 57% of the cPAD. Inclusion of illegal residues on carrots, squash and spinach did not noticeably increase exposure.

The complete results are tabulated below.

Table 1. Chronic Dietary Exposure and Risk Estimates for Selected Populations Using PDP Data for Fresh apples and not considering FHE use.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	.000008	2.7 %
All Infants	.000007	23.2 %
Nursing Infants	.000007	22.1 %
Non-nursing Infants < 1 year	.000007	23.7 %
Children 1-6	.000018	60.7 %
Children 7-12	.000013	44.5 %
Females 13-19, not pregnant, not nursing	.000006	19..4 %
Females 20+, not pregnant or nursing	.000007	21.7 %
Female 13-50	.000006	20.8 %
Females 13+, pregnant, not nursing	.000007	24.6 %
Females 13+, nursing	.000010	32.4 %
Males 13-19	.000006	2.1%
Males 20+	.000006	2.0%
Seniors	.000007	2.2%

Note: All subpopulations are included in the actual DEEM Reports attached to this document. Only larger, well defined populations are listed here. The reliability of results for other sub-populations not tabulated above may be difficult to assure because the number of participants from these subpopulations in the Consumption Survey is small and sometimes not well defined.

Table 2. Chronic Dietary Exposure and Risk Estimate Using PDP Data for Fresh Apples and Considering FHE use.

Population	Exposure Estimate, FHE included	
	exposure (mg/kg/d)	percent of cPAD
U.S. Population	.000012	3.9 %
All Infants	.000014	45.3 %
Nursing Infants	.000009	30.4 %
Non-nursing Infants < 1 year	.000015	51.6 %
Children 1-6	.000024	80.8 %
Children 7-12	.000018	59.4 %
Females 13-19, not pregnant, nor nursing	.000009	28.4 %
Females 20+, not pregnant, not nursing	.000009	31.4 %
Female 13-50	.000009	30.2 %
Females 13+, pregnant, not nursing	.000010	33.0 %
Females 13+, nursing	.000014	45.6 %
Males 13-19	.000009	3.2%
Males 20+	.000009	3.1%
Seniors	.000010	3.3%

Table 3. Chronic Dietary Exposure and Risk Estimates using NFS data for Fresh Apples.

Population	Exposure Estimate, with fresh apple data taken from NFS	
	exposure (mg/kg/d)	percent of cPAD
U.S. Population	.000007	2.5 %
All Infants	.000007	22.5 %
Nursing Infants	.000006	19.8 %
Non-nursing Infants < 1 year	.000007	23.7 %
Children 1-6	.000017	55.4 %
Children 7-12	.000012	39.9 %
Females 13-19, not pregnant, not nursing	.000005	18.1 %
Females 20+, not pregnant, not nursing	.000006	20.1 %
Female 13-50	.000006	19.3 %
Females 13+, pregnant, not nursing	.000007	21.8 %
Females 13+, Nursing	.000009	30.0 %
Males 13-19	.000006	2.0%
Males 20+	.000006	1.9%
Seniors	.000006	2.1%

Table 4. Chronic Dietary Exposure and Risk Estimates for Selected Populations Using PDP Data for Fresh apples not considering FHE use but including violative residues on carrots, squash, and spinach.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	.000008	2.7 %
All Infants	.000008	26.3 %
Nursing Infants	.000007	23.6 %
Non-nursing Infants < 1 year	.000008	27.5 %
Children 1-6	.000018	61.0 %
Children 7-12	.000013	44.6%
Females 13-19, not pregnant, not nursing	.000006	19.4 %
Females 20+, not pregnant, not nursing	.000007	21.9 %
Female 13-50	.000006	20.9 %
Females 13+, pregnant, not nursing	.000007	24.7 %
females 13+, Nursing	.000010	32.5 %
Males 13-19	.000006	2.1%
Males 20+	.000006	2.0%
Seniors	.000007	2.3%

List of Attachments:

Attachment 1: Chronic Residue Information
- 1.a. Assessment without food handling establishments
- 1.b. Assessment with food handling establishments included
- 1.c. Assessment using NFS data for fresh apples, no FHE
- 1.d. Assessment including violative residues on carrots, squash and spinach

Attachment 2: Chronic DEEM Analysis
- 2.a. Assessment without food handling establishments
- 2.b. Assessment with food handling establishments included
- 2.c. Assessment using NFS data for fresh apples, no FHE
- 2.d. Assessment including violative residues on carrots, squash and spinach

Attachment 3: Percent crop treated, Timothy Kiely, EAB/BEAD, 3/17/00.

cc:RRB3RF;D. Soderberg;S. Knizner
7509c:DSoderberg:CM-2:Room821D:308-4137:Chlorpyrifos

Attachment 1.a. Results of Chronic Analysis Using PDP Apple Data for Fresh Apples.

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrpdpjun5.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:13:01 Residue file dated: 06-15-2000/12:52:38/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is the chronic dietary exposure analysis using PDP data for fresh apples.

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Percent of Rfd
U.S. Population (total)	0.000008	27.0%
U.S. Population (spring season)	0.000007	24.6%
U.S. Population (summer season)	0.000008	26.4%
U.S. Population (autumn season)	0.000009	29.1%
U.S. Population (winter season)	0.000008	27.7%
Northeast region	0.000008	27.4%
Midwest region	0.000008	25.4%
Southern region	0.000008	25.5%
Western region	0.000009	30.9%
Hispanics	0.000009	28.6%
Non-hispanic whites	0.000008	27.6%
Non-hispanic blacks	0.000006	20.4%
Non-hisp/non-white/non-black	0.000010	33.9%
All infants (< 1 year)	0.000007	23.2%
Nursing infants	0.000007	22.1%
Non-nursing infants	0.000007	23.7%
Children 1-6 yrs	0.000018	60.7%
Children 7-12 yrs	0.000013	44.5%
Females 13-19 (not preg or nursing)	0.000006	19.4%
Females 20+ (not preg or nursing)	0.000007	21.7%
Females 13-50 yrs	0.000006	20.8%
Females 13+ (preg/not nursing)	0.000007	24.6%
Females 13+ (nursing)	0.000010	32.4%
Males 13-19 yrs	0.000006	21.3%
Males 20+ yrs	0.000006	20.1%
Seniors 55+	0.000007	22.4%
Pacific Region	0.000010	31.9%

Attachment 1.b. Results Using PDP Apple Data from Fresh Apples, and Including FHE Uses

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrpdpjun5FHE.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:20:35 Residue file dated: 06-15-2000/12:53:15/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is the chronic dietary exposure analysis using PDP data for fresh apples and including FHE uses.

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Total Exposure Percent of Rfd
U.S. Population (total)	0.000012	38.5%
U.S. Population (spring season)	0.000011	36.5%
U.S. Population (summer season)	0.000011	38.2%
U.S. Population (autumn season)	0.000012	40.3%
U.S. Population (winter season)	0.000012	39.0%
Northeast region	0.000012	39.9%
Midwest region	0.000011	36.8%
Southern region	0.000011	36.2%
Western region	0.000013	43.1%
Hispanics	0.000012	40.0%
Non-hispanic whites	0.000012	39.1%
Non-hispanic blacks	0.000010	32.1%
Non-hisp/non-white/non-black	0.000015	48.4%
All infants (< 1 year)	0.000014	45.3%
Nursing infants	0.000009	30.4%
Non-nursing infants	0.000015	51.6%
Children 1-6 yrs	0.000024	80.8%
Children 7-12 yrs	0.000018	59.4%
Females 13-19 (not preg or nursing)	0.000009	28.4%
Females 20+ (not preg or nursing)	0.000009	31.4%
Females 13-50 yrs	0.000009	30.2%
Females 13+ (preg/not nursing)	0.000010	33.0%
Females 13+ (nursing)	0.000014	45.6%
Males 13-19 yrs	0.000009	31.5%
Males 20+ yrs	0.000009	30.5%
Seniors 55+	0.000010	32.9%
Pacific Region	0.000013	44.3%

Attachment 1.c. Results Using the Registrant's Market Basket Apple Data for Fresh Apples

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrrmbjun5.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:14:30 Residue file dated: 06-15-2000/12:55:49/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is the chronic dietary exposure analysis using the registrant's market basket data for fresh apples.

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Percent of Rfd
U.S. Population (total)	0.000007	24.8%
U.S. Population (spring season)	0.000007	22.7%
U.S. Population (summer season)	0.000007	24.8%
U.S. Population (autumn season)	0.000008	26.5%
U.S. Population (winter season)	0.000008	25.2%
Northeast region	0.000008	25.2%
Midwest region	0.000007	23.5%
Southern region	0.000007	23.6%
Western region	0.000008	28.3%
Hispanics	0.000008	26.1%
Non-hispanic whites	0.000008	25.4%
Non-hispanic blacks	0.000006	19.3%
Non-hisp/non-white/non-black	0.000009	30.7%
All infants (< 1 year)	0.000007	22.5%
Nursing infants	0.000006	19.8%
Non-nursing infants	0.000007	23.7%
Children 1-6 yrs	0.000017	55.4%
Children 7-12 yrs	0.000012	39.9%
Females 13-19 (not preg or nursing)	0.000005	18.1%
Females 20+ (not preg or nursing)	0.000006	20.1%
Females 13-50 yrs	0.000006	19.3%
Females 13+ (preg/not nursing)	0.000007	21.8%
Females 13+ (nursing)	0.000009	30.0%
Males 13-19 yrs	0.000006	20.1%
Males 20+ yrs	0.000006	18.7%
Seniors 55+	0.000006	20.8%
Pacific Region	0.000009	29.0%

Attachment 1.d. Results Using PDP Apple Data When Violative Residues on Spinach, Squash, and Carrots Are Included

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrpdpvioljun5.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:19:10 Residue file dated: 06-15-2000/12:54:57/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is chronic dietary exposure analysis using PDP data for fresh apples and including violative residues on carrots, squash and spinach..

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Total Exposure Percent of Rfd
U.S. Population (total)	0.000008	27.1%
U.S. Population (spring season)	0.000007	24.8%
U.S. Population (summer season)	0.000008	26.5%
U.S. Population (autumn season)	0.000009	29.3%
U.S. Population (winter season)	0.000008	27.8%
Northeast region	0.000008	27.6%
Midwest region	0.000008	25.5%
Southern region	0.000008	25.6%
Western region	0.000009	31.2%
Hispanics	0.000009	28.7%
Non-hispanic whites	0.000008	27.8%
Non-hispanic blacks	0.000006	20.5%
Non-hisp/non-white/non-black	0.000010	34.0%
All infants (< 1 year)	0.000008	26.3%
Nursing infants	0.000007	23.6%
Non-nursing infants	0.000008	27.5%
Children 1-6 yrs	0.000018	61.0%
Children 7-12 yrs	0.000013	44.6%
Females 13-19 (not preg or nursing)	0.000006	19.4%
Females 20+ (not preg or nursing)	0.000007	21.9%
Females 13-50 yrs	0.000006	20.9%
Females 13+ (preg/not nursing)	0.000007	24.7%
Females 13+ (nursing)	0.000010	32.5%
Males 13-19 yrs	0.000006	21.3%
Males 20+ yrs	0.000006	20.2%
Seniors 55+	0.000007	22.6%
Pacific Region	0.000010	32.2%

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Attachment 2.a. DEEM Files for the Chronic Analysis Using PDP Apple Data for Fresh Apples.

```
"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:52:38
-1  "This is for chronic dietary exposure analysis."
 999  0
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute data"
 13 "01014AA","O", 0.00272  1  1  4 "Grapes", "PDP 1994-1997"
    11 Uncooked, 0.00272  1  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  1  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  1  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00272  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.17  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.17  1 "PDP 1994-1997"
    13 Baked, 0.00272  0.17  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.17  1 "PDP 1994-1997"
    18 Dried, 0.00272  0.17  1 "PDP 1994-1997"
    42 Frozen: Cooked, 0.00272  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00272  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.3  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    34 Canned: Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  0.3  1 "PDP 1994-1997"
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market basket"
 34 "02006AB","10", 0.0012  1  1  3 "Oranges-peeled fruit", "PDP"
    11 Uncooked, 0.0012  1  1 "PDP"
    12 Cooked: NFS, 0.0012  1  1 "PDP"
    31 Canned: NFS, 0.0005  1  1 "PDP"
 35 "02006HA","10", 0.0012  15  1  4 "Oranges-peel", "PDP"
    11 Uncooked, 0.0012  15  1 "PDP"
    12 Cooked: NFS, 0.0012  15  1 "PDP"
    31 Canned: NFS, 0.0005  15  1 "PDP"
    41 Frozen: NFS, 0.0005  15  1 "PDP"
 36 "02006JA","10", 0.00012  1  1  0 "Oranges-juice", "market basket"
 37 "02007AA","10", 0.00073  1  1  0 "Tangelos", "PDP from Oranges"
 38 "02008AA","10", 0.00073  1  1  0 "Tangerines", "PDP from Oranges"
 39 "02008JA","10", 0.00022  1  1  0 "Tangerines-juice", "market basket"
 40 "03001AA","14", 0.01  1  1  0 "Almonds", "Field trials from Walnuts and Almonds"
 44 "03005AA","14", 0.003  1  1  0 "Filberts (hazelnuts)", "Field trials from Walnuts and Almonds"
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46 "03007AA","14", 0.003 1 1 0 "Macadamia nuts (bush nuts)", "Field trials from Walnuts and Almonds"
47 "03008AA","14", 0.014 1 1 0 "Pecans", "Field trials from Walnuts and Almonds"
48 "03009AA","14", 0.015 1 1 0 "Walnuts", "Field trials from Walnuts and Almonds"
52 "04001AA","11", 0.00635 1 1 11 "Apples", "PDP"
11 Uncooked, 0.00635 1 1 "PDP"
12 Cooked: NFS, 0.00635 0.15 1 "PDP"
13 Baked, 0.00635 0.15 1 "PDP"
14 Boiled, 0.0005 1 1 "market basket"
15 Fried, 0.00635 0.15 1 "PDP"
18 Dried, 0.00635 1.2 1 "PDP"
31 Canned: NFS, 0.0005 1 1 "market basket"
32 Canned: Cooked, 0.0005 1 1 "market basket"
33 Canned: Baked, 0.0005 1 1 "market basket"
34 Canned: Boiled, 0.0005 1 1 "market basket"
42 Frozen: Cooked, 0.0005 1 1 "market basket"
53 "04001DA","11", 0.00635 1.2 1 4 "Apples-dried", "PDP 94-96 with 44% crop treated"
13 Baked, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
14 Boiled, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
18 Dried, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
42 Frozen: Cooked, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
54 "04001JA","11", 0.00032 1 1 5 "Apples-juice/cider", "PDP 94-96 with 44% crop treated"
11 Uncooked, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
12 Cooked: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
14 Boiled, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
31 Canned: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
41 Frozen: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
56 "04003AA","11", 0.00066 1 1 5 "Pears", "1997 PDP"
11 Uncooked, 0.00066 1 1 "1997 PDP"
12 Cooked: NFS, 0.00066 0.15 1 "1997 PDP"
13 Baked, 0.00066 0.15 1 "1997 PDP"
14 Boiled, 0.00066 0.15 1 "1997 PDP"
31 Canned: NFS, 0.00066 0.15 1 "1997 PDP"
57 "04003DA","11", 0.00066 0.94 1 3 "Pears-dried", "1997 PDP"
13 Baked, 0.00066 0.94 1 "1997 PDP"
14 Boiled, 0.00066 0.94 1 "1997 PDP"
18 Dried, 0.00066 0.94 1 "1997 PDP"
61 "05002AA","12", 0.0012 1 1 0 "Cherries", "FDA"
62 "05002DA","12", 0.0012 4 1 0 "Cherries-dried", "FDA"
63 "05002JA","12", 0.0012 0.3 1 4 "Cherries-juice", "FDA"
13 Baked, 0.0012 0.3 1 "FDA"
14 Boiled, 0.0012 0.3 1 "FDA"
31 Canned: NFS, 0.0012 0.3 1 "FDA"
41 Frozen: NFS, 0.0012 0.3 1 "FDA"
64 "05003AA","12", 0.00073 1 1 1 "Nectarines", "PDP Peaches"
11 Uncooked, 0.00073 1 1 "PDP Peaches"
65 "05004AA","12", 0.0011 1 1 6 "Peaches", "PDP"
11 Uncooked, 0.0011 1 1 "PDP"
12 Cooked: NFS, 0.0011 1 1 "PDP"
13 Baked, 0.0011 1 1 "PDP"
14 Boiled, 0.0011 1 1 "PDP"
31 Canned: NFS, 0.000275 1 1 "PDP 1997 canned"
41 Frozen: NFS, 0.000275 1 1 "PDP 1997 canned"
66 "05004DA","12", 0.0011 7 1 0 "Peaches-dried", "PDP"
67 "05005AA","12", 0.00046 1 1 5 "Plums (damsons)", "PDP from peaches"
11 Uncooked, 0.00046 1 1 "PDP from peaches"
12 Cooked: NFS, 0.00046 1 1 "PDP from peaches"
31 Canned: NFS, 0.000125 1 1 "PDP from canned peaches"

42 Frozen: Cooked, 0.000125 1 1 "PDP from canned peaches"
51 Cured: NFS (smoked/p, 0.000125 1 1 "PDP from canned peaches"
68 "05005DA","12", 0.00046 5 1 0 "Plums-prunes (dried)", "PDP from peaches"
69 "05005JA","12", 0.00046 1.4 1 0 "Plums/prune-juice", "PDP from peaches"
72 "06002AB","O", 0.00039 1 1 0 "Bananas", ""
73 "06002DA","O", 0.00039 3.9 1 0 "Bananas-dried", ""
78 "06005AA","O", 0.0001 1 1 0 "Figs", "tolerance and 1% crop treated"
94 "06016AA","O", 0.00039 1 1 0 "Plantains-ripe", ""
97 "06018AA","O", 0.0213 0.15 1 0 "Kiwi fruit", "FDA"
148 "10010AA","9B", 0.000198 1 1 0 "Cucumbers", "FDA data"
149 "10011AA","9B", 0.000198 1 1 0 "Pumpkin", "Translated from Cucumbers"
155 "11003AA","8", 0.0083 1 1 0 "Peppers-sweet(garden)", "FDA "
156 "11003AB","8", 0.0083 1 1 0 "Peppers-chilli incl jalapeno", "FDA "
157 "11003AD","8", 0.0083 1 1 0 "Peppers-other", "FDA "
159 "11005AA","8", 0.0041 1 1 0 "Tomatoes-whole", "PDP"
160 "11005JA","8", 0.00045 0.03 1 0 "Tomatoes-juice", "PDP and processing study"
161 "11005RA","8", 0.00045 0.1 1 0 "Tomatoes-puree", "PDP and processing study"
162 "11005TA","8", 0.00045 0.1 1 0 "Tomatoes-paste", "PDP and processing study"
163 "11005UA","8", 0.00045 0.1 1 0 "Tomatoes-catsup", "PDP and processing study"
168 "13005AA","5A", 0.00122 1 1 0 "Broccoli", "PDP 94"
169 "13006AA","5A", 0.00217 1 1 0 "Brussels sprouts", "PDP 94 from broccoli"
170 "13007AA","5A", 0.00136 1 1 0 "Cabbage-green and red", "FDA data"
171 "13008AA","5A", 0.000046 1 1 0 "Cauliflower", "FDA"
172 "13009AA","5B", 0.0015 1 1 0 "Collards", "FDA"
174 "13011AA","5B", 0.006 1 1 0 "Kale", "FDA"
175 "13012AA","5A", 0.0015 1 1 0 "Kohlrabi", "collards"
183 "13021AA","5B", 0.0015 1 1 0 "Mustard greens", "collards"
188 "13026AA","2", 0.0015 1 1 0 "Turnips-tops", "Sweet Potato data"
195 "13049AA","O", 0.00272 1.5 1 1 "Grapes-leaves", "PDP 1994-1997"
14 Boiled, 0.00272 1.5 1 "PDP 1994-1997"
205 "14011AA","3", 0.00002 1 1 0 "Onions-dry-bulb (cipollini)", "1992 - 1997 FDA and 13% crop treated"
206 "14011DA","3", 0.00002 9 1 0 "Onions-dehydrated or dried", ""
212 "14014AA","1AB", 0.0043 1 1 0 "Radishes-roots", "FDA"
213 "14014AB","2", 0.0015 1 1 0 "Radishes-tops", "PDP from sweet potato"
214 "14015AA","1AB", 0.0011 1 1 0 "Rutabagas-roots", "PDP from sweet potato"
218 "14018AA","1CD", 0.0011 1 1 6 "Sweet potatoes (incl yams)", "PDP 1994-1997"
12 Cooked: NFS, 0.0011 1 1 "PDP 1994-1997"
13 Baked, 0.0011 1 1 "PDP 1994-1997"
14 Boiled, 0.0011 1 1 "PDP 1994-1997"
15 Fried, 0.0011 1 1 "PDP 1994-1997"
32 Canned: Cooked, 0.0011 0.15 1 "PDP 1994-1997"
34 Canned: Boiled, 0.0011 0.15 1 "PDP 1994-1997"
219 "14019AA","1AB", 0.0011 1 1 0 "Turnips-roots", "Sweet Potato data"
227 "15001AA","6C", 0.00025 1 1 0 "Beans-dry-great northern", "1/2Tolerance and % crop treated"
228 "15001AB","6C", 0.00025 1 1 0 "Beans-dry-kidney", "1/2Tolerance and % crop treated"
229 "15001AC","6C", 0.00025 1 1 0 "Beans-dry-lima", "1/2Tolerance and % crop treated"
230 "15001AD","6C", 0.00025 1 1 0 "Beans-dry-navy (pea)", "1/2Tolerance and % crop treated"
231 "15001AE","6C", 0.00025 1 1 0 "Beans-dry-other", "1/2Tolerance and % crop treated"
232 "15001AF","6C", 0.00025 1 1 0 "Beans-dry-pinto", "1/2Tolerance and % crop treated"
233 "15002AA","6B", 0.000032 1 1 0 "Beans-succulent-lima", "PDP and % crop treated"
234 "15003AA","6A", 0.000032 1 1 0 "Beans-succulent-green", "PDP 96 and 97"
235 "15003AB","6A", 0.000032 1 1 0 "Beans-succulent-other", "PDP and % crop treated"
236 "15003AC","6A", 0.000032 1 1 0 "Beans-succulent-yellow/wax", "PDP and % crop treated"
240 "15007AA","6C", 0.00025 1 1 0 "Peas (garden)-dry", "1/2Tolerance and % crop treated"
241 "15009AA","6AB", 0.000033 1 1 0 "Peas (garden)-green", "PDP 1996"
243 "15011AB","6C", 0.00025 1 1 0 "Lentils", "Tolerance and % crop treated"
244 "15013AA","6C", 0.00025 1 1 0 "Mung beans (sprouts)", "from beans"

249 "15022AA","6C", 0.00025 1 1 0 "Beans-dry-broadbeans", "1/2Tolerance and % crop treated"
250 "15022AB","6B", 0.000032 1 1 0 "Beans-succulent-broadbeans", "PDP and % crop treated"
251 "15023AA","6C", 0.00025 1 1 0 "Beans-dry-pigeon beans", "1/2Tolerance and % crop treated"
253 "15027AA","6", 0.000032 1 1 0 "Beans-unspecified", "PDP and % crop treated"
255 "15029AA","6A", 0.00032 0.33 1 0 "Soybeans-sprouted seeds", "Knizner Memo."
256 "15030AA","6C", 0.00025 1 1 0 "Beans-dry-hyacinth", "1/2Tolerance and % crop treated"
257 "15030AB","6", 0.000032 1 1 0 "Beans-succulent-hyacinth", "PDP and % crop treated"
258 "15031AA","6C", 0.00025 1 1 0 "Beans-dry-blackeye peas/cowpea", "1/2Tolerance and % crop treated"
259 "15032AA","6C", 0.00025 1 1 0 "Beans-dry-garbanzo/chick pea", "1/2Tolerance and % crop treated"
260 "16002AA","O", 0.00313 1 1 0 "Asparagus", "93-97 FDA and % crop treated"
266 "24002EA","15", 0.00077 0.22 1 0 "Corn grain-endosperm", "Field trial"
267 "24002HA","15", 0.00077 1 1 0 "Corn grain-bran", "Field trial"
268 "24002SA","15", 0.00077 0.05 1 0 "Corn grain/sugar/hfcs", "Field trial"
276 "24007AA","15", 0.0032 0.86 1 4 "Wheat-rough", "PDP 1995-1997"
11 Uncooked, 0.0032 0.86 1 "PDP 1995-1997"
12 Cooked: NFS, 0.0032 0.86 1 "PDP 1995-1997"
13 Baked, 0.0032 0.36 1 "PDP 1995-1997"
14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
277 "24007GA","15", 0.0032 2.7 1 0 "Wheat-germ", "PDP 1995-1997"
278 "24007HA","15", 0.0032 3 1 0 "Wheat-bran", "PDP 1995-1997"
279 "24007WA","15", 0.0032 0.145 1 14 "Wheat-flour", "PDP 1995-1997"
11 Uncooked, 0.0032 0.145 1 "PDP 1995-1997"
12 Cooked: NFS, 0.0032 0.145 1 "PDP 1995-1997"
13 Baked, 0.0032 0.145 1 "PDP 1995-1997"
14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
15 Fried, 0.0032 0.145 1 "PDP 1995-1997"
31 Canned: NFS, 0.0032 0.145 1 "PDP 1995-1997"
32 Canned: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
33 Canned: Baked, 0.0032 0.145 1 "PDP 1995-1997"
34 Canned: Boiled, 0.0032 0.026 1 "PDP 1995-1997"
41 Frozen: NFS, 0.0032 0.145 1 "PDP 1995-1997"
42 Frozen: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
43 Frozen: Baked, 0.0032 0.145 1 "PDP 1995-1997"
45 Frozen: Fried, 0.0032 0.145 1 "PDP 1995-1997"
52 Cured: Cooked(smokd/, 0.0032 0.145 1 "PDP 1995-1997"
282 "25002SA","1A", 0.000628 1 1 1 "Sugar-beet", "PDP from Sweet Potato"
98 Refined, 0.000628 0.1 1 "PDP from Sweet Potato"
287 "26011AA","6C", 0.00025 1 1 0 "Guar beans", "Tolerance and % crop treated"
289 "27002OA","15", 0.00077 4.5 1 0 "Corn grain-oil", "Field trial"
290 "27003OA","O", 0.0023 1 1 0 "Cottonseed-oil", "Field trial % crop treated and processing factor."
293 "27007OA","O", 0.001 2 1 0 "Peanuts-oil", "steve knizner 7/95 ar memo for the processing fact"
297 "27010OA","6A", 0.00032 0.14 1 0 "Soybeans-oil", "Knizner Memo. Reduction factor."
298 "27011OA","O", 0.00046 1 1 0 "Sunflower-oil", "knizner 7/95 memo"
303 "15023AA","6A", 0.00032 1 1 0 "Soybean-other", "Knizner Memo."
304 "28023AB","6A", 0.00032 1 1 0 "Soybeans-mature seeds dry", "Knizner Memo."
305 "28023WA","6A", 0.00032 1 1 0 "Soybeans-flour (full fat)", "Knizner Memo."
306 "28023WB","6A", 0.00032 1 1 0 "Soybeans-flour (low fat)", "Knizner Memo."
307 "28023WC","6A", 0.00032 1 1 0 "Soybeans-flour (defatted)", "Knizner Memo."
311 "28080OA","O", 1.52 1 1 0 "Peppermint-oil", "Tolerance of Hay, 10x CF, percent crop treated"
313 "28081OA","O", 1.52 1 1 0 "Spearmint-oil", "Hay tolerance x 10 CF x percent crop treated"
315 "43058AA","O", 0.00272 0.02 1 1 "Grapes-wine and sherry", "PDP 1994-1997"
99 Alcohol/Fermented/Di, 0.00272 0.02 1 "PDP 1994-1997"
317 "43060AA","O", 0.0002 1 1 0 "Gelatin", "from lean beef"
321 "53001BA","M", 0.0002 0.5 1 0 "Beef-meat byproducts", "Registrants' Market Basket Survey"
322 "53001BB","M", 0.0002 0.5 1 0 "Beef-other organ meats", "Registrants' Market Basket Survey"
323 "53001DA","M", 0.0002 0.96 1 0 "Beef-dried", "Registrants' Market Basket Survey"
324 "53001FA","M", 0.001 0.5 1 0 "Beef-fat w/o bones", "Registrants' Market Basket Survey"

325 "53001KA","M", 0.0002 0.5 1 0 "Beef-kidney", "Registrants' Market Basket Survey"
326 "53001LA","M", 0.0002 0.5 1 0 "Beef-liver", "Registrants' Market Basket Survey"
327 "53001MA","M", 0.0002 0.5 1 0 "Beef-lean (fat/free) w/o bones", "Registrants' Market Basket Survey"
328 "53002BA","M", 0.0002 0.5 1 0 "Goat-meat byproducts", "Registrants' Market Basket Survey"
329 "53002BB","M", 0.0002 0.5 1 0 "Goat-other organ meats", "Registrants' Market Basket Survey"
330 "53002FA","M", 0.001 0.5 1 0 "Goat-fat w/o bone", "Registrants' Market Basket Survey"
331 "53002KA","M", 0.0002 0.5 1 0 "Goat-kidney", "Registrants' Market Basket Survey"
332 "53002LA","M", 0.0002 0.5 1 0 "Goat-liver", "Registrants' Market Basket Survey"
333 "53002MA","M", 0.0002 0.5 1 0 "Goat-lean (fat/free) w/o bone", "Registrants' Market Basket Survey"
334 "53003AA","M", 0.0002 0.5 1 0 "Horsemeat", "Translated from Beef."
336 "53005BA","M", 0.0002 0.5 1 0 "Sheep-meat byproducts", "Market Basket"
337 "53005BB","M", 0.0002 0.5 1 0 "Sheep-other organ meats", "Market Basket"
338 "53005FA","M", 0.001 0.5 1 0 "Sheep-fat w/o bone", "Market Basket"
339 "53005KA","M", 0.0002 0.5 1 0 "Sheep-kidney", "Market Basket"
340 "53005LA","M", 0.0002 0.5 1 0 "Sheep-liver", "Market Basket"
341 "53005MA","M", 0.0002 0.5 1 0 "Sheep-lean (fat free) w/o bone", "Market Basket"
342 "53006BA","M", 0.0001 0.5 1 0 "Pork-meat byproducts", "Pork Sausage"
343 "53006BB","M", 0.0001 0.5 1 0 "Pork-other organ meats", "Pork Sausage"
344 "53006FA","M", 0.0005 0.5 1 0 "Pork-fat w/o bone", "Pork Sausage"
345 "53006KA","M", 0.0001 0.5 1 0 "Pork-kidney", "Pork Sausage"
346 "53006LA","M", 0.0001 0.5 1 0 "Pork-liver", "Pork Sausage"
347 "53006MA","M", 0.0001 0.5 1 0 "Pork-lean (fat free) w/o bone", "Pork Sausage"
355 "55008BA","P", 0.000002 0.5 1 0 "Turkey-byproducts", "Dietary Burden Calculation"
356 "55008LA","P", 0.000002 0.5 1 0 "Turkey-giblets (liver)", "Dietary Burden Calculation"
357 "55008MA","P", 0.000027 0.5 1 0 "Turkey--fat w/o bones", "Dietary Burden Calculation"
358 "55008MB","P", 0.000002 0.5 1 0 "Turkey- lean/fat free w/o bones", "Dietary Burden Calculation"
360 "55013BA","P", 0.000002 0.5 1 0 "Poultry-other-lean (fat free) w/o bone", "dietary burden"
361 "55013LA","P", 0.000002 0.5 1 0 "Poultry-other-giblets(liver)", "dietary burden"
362 "55013MA","P", 0.000027 0.5 1 0 "Poultry-other-fat w/o bones", "dietary burden"
363 "55014AA","P", 0.000004 1 1 0 "Eggs-whole", "Dietary Burden"
364 "55014AB","P", 0.000004 1 1 0 "Eggs-white only", "Dietary Burden"
365 "55014AC","P", 0.000004 1 1 0 "Eggs-yolk only", "Dietary Burden"
366 "55015BA","P", 0.000002 0.5 1 0 "Chicken-byproducts", "Dietary Burden Calculations"
367 "55015LA","P", 0.000002 0.5 1 0 "Chicken-giblets(liver)", "Dietary Burden Calculations"
368 "55015MA","P", 0.000027 0.5 1 0 "Chicken-fat w/o bones", "Dietary Burden Calculations"
369 "55015MB","P", 0.000002 0.5 1 0 "Chicken-lean/fat free w/o bones", "Dietary Burden Calculations"
377 "04001JC","11", 0.00032 3 1 4 "Apples-juice-concentrate", "PDP 94-96 with 44% crop treated"
12 Cooked: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
13 Baked, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
31 Canned: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
41 Frozen: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
378 "06002NA","O", 0.00039 1 1 0 "Bananas-juice", ""
379 "25002MO","1A", 0.000628 1 1 1 "Sugar-beet-molasses", "PDP from Sweet Potato"
98 Refined, 0.000628 1 1 "PDP from Sweet Potato "
383 "13007SA","5B", 0.00136 1 1 0 "Cabbage-savoy", "FDA data"
385 "55015EL","P", 0.000002 0.5 1 0 "Chicken-giblets (excl. liver)", "Dietary Burden Calculations"
388 "24002MO","15", 0.00077 0.05 1 0 "Corn grain/sugar-molasses", "Field trial"
389 "01010JC","O", 0.0202 1 1 0 "Cranberries-juice-concentrate", "Cranberry Institute data"
392 "01014JC","O", 0.00272 0.9 1 5 "Grapes-juice-concentrate", "PDP 1994-1997"
12 Cooked: NFS, 0.00272 0.9 1 "PDP 1994-1997"
13 Baked, 0.00272 0.9 1 "PDP 1994-1997"
14 Boiled, 0.00272 0.9 1 "PDP 1994-1997"
31 Canned: NFS, 0.00272 0.9 1 "PDP 1994-1997"
41 Frozen: NFS, 0.00272 0.9 1 "PDP 1994-1997"
402 "05004JA","12", 0.0011 1 1 2 "Peaches-juice", "PDP"
11 Uncooked, 0.0011 1 1 "PDP"
31 Canned: NFS, 0.0011 1 1 "PDP"

403 "15006BT","O", 0.0051 1 1 2 "Peanuts-butter", "market basket"
13 Baked, 0.0051 1 1 "market basket"
14 Boiled, 0.0051 1 1 "market basket"
404 "04003NA","11", 0.00066 0.15 1 0 "Pears-juice", "1997 PDP"
405 "15008AA","6B", 0.000033 1 1 0 "Peas-succulent/blackeye/cowpea", "PDP 1996"
407 "14023AA","1AB", 0.0043 1 1 0 "Radishes-japanese (daiken)", "FDA"
413 "15009AB","6A", 0.000033 1 1 0 "Snowpeas", "PDP 1996"
416 "01016JA","O", 0.00021 0.3 1 0 "Strawberries-juice", "FDA data"
417 "15018HA","O", 0.00046 1 1 0 "Sunflower-seeds", "acute AR * 1% crop treated"
418 "14018LV","2", 0.0011 1 1 0 "Sweet potatos-leaves", "PDP 1994-1997"
420 "02008JC","10", 0.00022 3.2 1 0 "Tangerines-juice-concentrate", "market basket"
423 "11005DA","8", 0.00045 14.3 1 0 "Tomatoes-dried", "PDP "
431 "030090L","14", 0.015 1 1 0 "Walnut oil", "Field trials from Walnuts and Almonds"
437 "24007OL","15", 0.0032 2.7 1 0 "Wheat-germ oil", "PDP 1995-1997"
441 "02002JC","10", 0.000165 3.93 1 0 "Grapefruit-juice-concentrate", "market basket"
442 "02004JC","10", 0.00041 5.7 1 0 "Lemons-juice-concentrate", "market basket"
443 "02005JC","10", 0.00022 3 1 0 "Limes-juice-concentrate", "market basket"
448 "02002HA","10", 0.00055 8 1 0 "Grapefruit peel", "Translated from oranges"
449 "No Code","P", 0.000002 0.5 1 0 "Turkey-other organ meats", "Dietary Burden Calculation"
451 "No Code","5A", 0.00122 1 1 0 "Broccoli-chinese", "PDP 94 from broccoli"
452 "No Code","5B", 0.0015 1 1 0 "Bok choy", "FDA data"
480 "06016GA","O", 0.00039 1 1 0 "Plantains-green", ""
481 "06016DA","O", 0.00039 3.9 1 0 "Plantains-dried", ""
482 "No Code","O", 0.00032 1 1 0 "Soybeans-protein isolate", "Knizner Memo."
484 "No Code","O", 0.0043 1 1 0 "Radishes-oriental", "FDA"
940 "No Code","O", 0.001 1 1 0 "Peanuts-hulled", "FDA and 10 % CT"

Attachment 2.b. DEEM File for Chronic Analysis Using PDP Data for Apples and Including FHE Uses

```
"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:53:15
-1  "This is for chronic dietary exposure analysis."
 999  0
 1 "01002AA","13A", 0.005  0.24  1  0 "Blackberries", ""
 2 "01003AA","13A", 0.005  0.24  1  0 "Boysenberries", ""
 3 "01004AA","13A", 0.005  0.24  1  0 "Dewberries", ""
 4 "01005AA","13A", 0.005  0.24  1  0 "Loganberries", ""
 5 "01006AA","13A", 0.005  0.24  1  0 "Raspberries", ""
 6 "01007AA","13A", 0.005  0.24  1  0 "Youngberries", ""
 7 "01009AA","13B", 0.005  0.24  1  0 "Blueberries", ""
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute data"
 10 "01011AA","13B", 0.005  0.24  1  0 "Currants", ""
 11 "01012AA","13B", 0.005  0.24  1  0 "Elderberries", ""
 12 "01013AA","13B", 0.005  0.24  1  0 "Gooseberries", ""
 13 "01014AA","O", 0.00272  1  1  4 "Grapes", "PDP 1994-1997"
    11 Uncooked, 0.00272  1  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  1  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  1  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00272  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.17  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.17  1 "PDP 1994-1997"
    13 Baked, 0.00272  0.17  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.17  1 "PDP 1994-1997"
    18 Dried, 0.00272  0.17  1 "PDP 1994-1997"
    42 Frozen: Cooked, 0.00272  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00272  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.3  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    34 Canned: Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  0.3  1 "PDP 1994-1997"
 16 "01015AA","13B", 0.005  0.24  1  0 "Huckleberries", ""
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 18 "01024AA","O", 0.005  0.24  1  0 "Juneberry", ""
 19 "01025AA","O", 0.005  0.24  1  0 "Mulberries", ""
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market basket"
```

34 "02006AB","10", 0.0012 1 1 3 "Oranges-peeled fruit", "PDP"
11 Uncooked, 0.0012 1 1 "PDP"
12 Cooked: NFS, 0.0012 1 1 "PDP"
31 Canned: NFS, 0.0005 1 1 "PDP"
35 "02006HA","10", 0.0012 15 1 4 "Oranges-peel", "PDP"
11 Uncooked, 0.0012 15 1 "PDP"
12 Cooked: NFS, 0.0012 15 1 "PDP"
31 Canned: NFS, 0.0005 15 1 "PDP"
41 Frozen: NFS, 0.0005 15 1 "PDP"
36 "02006JA","10", 0.00012 1 1 0 "Oranges-juice", "market basket"
37 "02007AA","10", 0.00073 1 1 0 "Tangelos", "PDP from Oranges"
38 "02008AA","10", 0.00073 1 1 0 "Tangerines", "PDP from Oranges"
39 "02008JA","10", 0.00022 1 1 0 "Tangerines-juice", "market basket"
40 "03001AA","14", 0.01 1 1 0 "Almonds", "Field trials from Walnuts and Almonds"
44 "03005AA","14", 0.003 1 1 0 "Filberts (hazelnuts)", "Field trials from Walnuts and Almonds"
46 "03007AA","14", 0.003 1 1 0 "Macadamia nuts (bush nuts)", "Field trials from Walnuts and Almonds"
47 "03008AA","14", 0.014 1 1 0 "Pecans", "Field trials from Walnuts and Almonds"
48 "03009AA","14", 0.015 1 1 0 "Walnuts", "Field trials from Walnuts and Almonds"
50 "03011AA","O", 0.005 0.24 1 0 "Pistachio nuts", ""
52 "04001AA","11", 0.00635 1 1 11 "Apples", "PDP"
11 Uncooked, 0.00635 1 1 "PDP"
12 Cooked: NFS, 0.00635 0.15 1 "PDP"
13 Baked, 0.00635 0.15 1 "PDP"
14 Boiled, 0.0005 1 1 "market basket"
15 Fried, 0.00635 0.15 1 "PDP"
18 Dried, 0.00635 1.2 1 "PDP"
31 Canned: NFS, 0.0005 1 1 "market basket"
32 Canned: Cooked, 0.0005 1 1 "market basket"
33 Canned: Baked, 0.0005 1 1 "market basket"
34 Canned: Boiled, 0.0005 1 1 "market basket"
42 Frozen: Cooked, 0.0005 1 1 "market basket"
53 "04001DA","11", 0.00635 1.2 1 4 "Apples-dried", "PDP 94-96 with 44% crop treated"
13 Baked, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
14 Boiled, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
18 Dried, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
42 Frozen: Cooked, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
54 "04001JA","11", 0.00032 1 1 5 "Apples-juice/cider", "PDP 94-96 with 44% crop treated"
11 Uncooked, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
12 Cooked: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
14 Boiled, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
31 Canned: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
41 Frozen: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
55 "04002AA","11", 0.005 0.24 1 0 "Crabapples", ""
56 "04003AA","11", 0.00066 1 1 5 "Pears", "1997 PDP"
11 Uncooked, 0.00066 1 1 "1997 PDP"
12 Cooked: NFS, 0.00066 0.15 1 "1997 PDP"
13 Baked, 0.00066 0.15 1 "1997 PDP"
14 Boiled, 0.00066 0.15 1 "1997 PDP"
31 Canned: NFS, 0.00066 0.15 1 "1997 PDP"
57 "04003DA","11", 0.00066 0.94 1 3 "Pears-dried", "1997 PDP"
13 Baked, 0.00066 0.94 1 "1997 PDP"
14 Boiled, 0.00066 0.94 1 "1997 PDP"
18 Dried, 0.00066 0.94 1 "1997 PDP"
58 "04004AA","11", 0.005 0.24 1 0 "Quinces", ""
59 "05001AA","12", 0.005 0.24 1 0 "Apricots", ""
60 "05001DA","12", 0.005 0.24 1 0 "Apricots-dried", ""
61 "05002AA","12", 0.0012 1 1 0 "Cherries", "FDA"

62 "05002DA","12", 0.0012 4 1 0 "Cherries-dried", "FDA"
63 "05002JA","12", 0.0012 0.3 1 4 "Cherries-juice", "FDA"
   13 Baked, 0.0012 0.3 1 "FDA"
   14 Boiled, 0.0012 0.3 1 "FDA"
   31 Canned: NFS, 0.0012 0.3 1 "FDA"
   41 Frozen: NFS, 0.0012 0.3 1 "FDA"
64 "05003AA","12", 0.00073 1 1 1 "Nectarines", "PDP Peaches"
   11 Uncooked, 0.00073 1 1 "PDP Peaches"
65 "05004AA","12", 0.0011 1 1 6 "Peaches", "PDP"
   11 Uncooked, 0.0011 1 1 "PDP"
   12 Cooked: NFS, 0.0011 1 1 "PDP"
   13 Baked, 0.0011 1 1 "PDP"
   14 Boiled, 0.0011 1 1 "PDP"
   31 Canned: NFS, 0.000275 1 1 "PDP 1997 canned"
   41 Frozen: NFS, 0.000275 1 1 "PDP 1997 canned"
66 "05004DA","12", 0.0011 7 1 0 "Peaches-dried", "PDP"
67 "05005AA","12", 0.00046 1 1 5 "Plums (damsons)", "PDP from peaches"
   11 Uncooked, 0.00046 1 1 "PDP from peaches"
   12 Cooked: NFS, 0.00046 1 1 "PDP from peaches"
   31 Canned: NFS, 0.000125 1 1 "PDP from canned peaches"
   42 Frozen: Cooked, 0.000125 1 1 "PDP from canned peaches"
   51 Cured: NFS (smoked/p, 0.000125 1 1 "PDP from canned peaches"
68 "05005DA","12", 0.00046 5 1 0 "Plums-prunes (dried)", "PDP from peaches"
69 "05005JA","12", 0.00046 1.4 1 0 "Plums/prune-juice", "PDP from peaches"
70 "06001AA","O", 0.005 0.24 1 0 "Avocados", ""
72 "06002AB","O", 0.00039 1 1 0 "Bananas", ""
73 "06002DA","O", 0.00039 3.9 1 0 "Bananas-dried", ""
74 "06003AA","O", 0.005 0.24 1 0 "Coconut", ""
75 "06003DA","O", 0.005 2.1 1 0 "Coconut-dried (copra)", ""
76 "06003JA","O", 0.005 0.24 1 0 "Coconut-water", ""
77 "06004AA","O", 0.005 0.24 1 0 "Dates", ""
78 "06005AA","O", 0.0001 1 1 0 "Figs", "tolerance and 1% crop treated"
79 "06006AA","O", 0.005 0.24 1 0 "Guava", ""
80 "06007AA","O", 0.005 0.24 1 0 "Mangoes", ""
81 "06008AA","11", 0.005 0.24 1 0 "Loquats", ""
82 "06009AA","O", 0.005 0.24 1 0 "Olives", ""
84 "06010AB","O", 0.005 0.24 1 0 "Papayas-pulp", ""
85 "06010DA","O", 0.005 0.24 1 0 "Papayas-dried", ""
86 "06010JA","O", 0.005 0.24 1 0 "Papayas-juice", ""
87 "06011AA","O", 0.005 0.24 1 0 "Pawpaws", ""
88 "06012AA","O", 0.005 0.24 1 0 "Persimmons", ""
89 "06013AA","O", 0.005 0.24 1 0 "Pineapples-peeled fruit", ""
90 "06013DA","O", 0.005 0.24 1 0 "Pineapples-dried", ""
91 "06013JA","O", 0.005 0.24 1 0 "Pineapples-juice", ""
92 "06014AA","O", 0.005 0.24 1 0 "Passion fruit (granadilla)", ""
93 "06015AA","O", 0.005 0.24 1 0 "Pomegranates", ""
94 "06016AA","O", 0.00039 1 1 0 "Plantains-ripe", ""
95 "06017AA","O", 0.005 0.24 1 0 "Lychees (litchi)/fresh", ""
96 "06017DA","O", 0.005 0.24 1 0 "Lychee-dried", ""
97 "06018AA","O", 0.0213 0.15 1 0 "Kiwi fruit", "FDA"
98 "06020AA","O", 0.005 0.24 1 0 "Acerola", ""
99 "06021AA","O", 0.005 0.24 1 0 "Ginkgo nuts", ""
100 "06022AA","O", 0.005 0.24 1 0 "Maney (mammee apple)", ""
101 "06023AA","O", 0.005 0.24 1 0 "Pitanga (surinam cherry)", ""
102 "06024AA","O", 0.005 0.24 1 0 "Soursop (annona muricata)", ""
103 "06025AA","O", 0.005 0.24 1 0 "Sugar apples (sweetsop)", ""
104 "06026AA","O", 0.005 0.24 1 0 "Bread fruit", ""

105 "06027AA","O", 0.005 0.24 1 0 "Bread nuts", ""
106 "06029AA","O", 0.005 0.24 1 0 "Carambola (starfruit)", ""
107 "06030AA","O", 0.005 0.24 1 0 "Cherimoya", ""
108 "06031AA","O", 0.005 0.24 1 0 "Longan fruit", ""
109 "06033AA","O", 0.005 0.24 1 0 "Genip (spanish lime)", ""
110 "07001FA","O", 0.005 0.24 1 0 "Chocolate-cocoa butter", ""
111 "07001SA","O", 0.005 0.24 1 0 "Chocolate", ""
112 "07002AA","O", 0.005 0.24 1 0 "Coffee", ""
113 "07003AA","O", 0.005 0.24 1 0 "Tea", ""
114 "07006AA","1AB", 0.005 0.24 1 0 "Chicory", ""
115 "08004AA","19B", 0.005 0.24 1 0 "Anise", ""
116 "08006AA","19A", 0.005 0.24 1 0 "Basil", ""
117 "08007AA","19B", 0.005 0.24 1 0 "Caraway", ""
118 "08008AA","19B", 0.005 0.24 1 0 "Cassia", ""
119 "08011AA","19B", 0.005 0.24 1 0 "Cinnamon", ""
120 "08012AA","19B", 0.005 0.24 1 0 "Clove", ""
121 "08013AA","19B", 0.005 0.24 1 0 "Coriander", ""
122 "08014AA","19B", 0.005 0.24 1 0 "Cumin", ""
123 "08015AA","19A", 0.005 0.24 1 0 "Dill", ""
124 "08019AA","1CD", 0.005 0.24 1 0 "Ginger", ""
125 "08020AA","O", 0.005 0.24 1 0 "Hops", ""
126 "08022AA","1AB", 0.005 0.24 1 0 "Horseradish", ""
127 "08023AA","19A", 0.005 0.24 1 0 "Rosemary", ""
128 "08026AA","19A", 0.005 0.24 1 0 "Marjoram", ""
129 "08026AB","19A", 0.005 0.24 1 0 "Oregano", ""
130 "08028AA","19B", 0.005 0.24 1 0 "Mustard seed", ""
131 "08029AA","19B", 0.005 0.24 1 0 "Nutmeg", ""
132 "08029AB","19B", 0.005 0.24 1 0 "Mace", ""
133 "08035AA","19A", 0.005 0.24 1 0 "Sage", ""
134 "08036AA","19A", 0.005 0.24 1 0 "Savory", ""
135 "08038AA","19A", 0.005 0.24 1 0 "Bay", ""
136 "08042AA","19A", 0.005 0.24 1 0 "Thyme", ""
137 "08043AA","1CD", 0.005 0.24 1 0 "Turmeric", ""
138 "08047AA","19B", 0.005 0.24 1 0 "Allspice", ""
139 "08048DA","8", 0.005 0.24 1 0 "Paprika", ""
140 "08049AA","19B", 0.005 0.24 1 0 "Poppy", ""
141 "10002NA","9A", 0.005 0.24 1 0 "Melons-cantaloupes-juice", ""
142 "10002AB","9A", 0.005 0.24 1 0 "Melons-cantaloupes-pulp", ""
143 "10003AA","9A", 0.005 0.24 1 0 "Casabas", ""
144 "10004AA","9A", 0.005 0.24 1 0 "Crenshaws", ""
145 "10005AA","9A", 0.005 0.24 1 0 "Melons-honeydew", ""
146 "10007AA","9A", 0.005 0.24 1 0 "Melons-persian", ""
147 "10008AA","9A", 0.005 0.24 1 0 "Watermelon", ""
148 "10010AA","9B", 0.000198 1 1 0 "Cucumbers", "FDA data"
149 "10011AA","9B", 0.000198 1 1 0 "Pumpkin", "Translated from Cucumbers"
150 "10013AA","9B", 0.005 0.24 1 0 "Squash-summer", ""
151 "10014AA","9B", 0.005 0.24 1 0 "Squash-winter", ""
152 "10017AA","9B", 0.005 0.24 1 0 "Bitter melon", ""
153 "10020AA","O", 0.005 0.24 1 0 "Towelgourd", ""
154 "11001AA","8", 0.005 0.24 1 0 "Eggplant", ""
155 "11003AA","8", 0.0083 1 1 0 "Peppers-sweet(garden)", "FDA "
156 "11003AB","8", 0.0083 1 1 0 "Peppers-chilli incl jalapeno", "FDA "
157 "11003AD","8", 0.0083 1 1 0 "Peppers-other", "FDA "
158 "11004AA","8", 0.005 0.24 1 0 "Pimientos", ""
159 "11005AA","8", 0.0041 1 1 0 "Tomatoes-whole", "PDP"
160 "11005JA","8", 0.00045 0.03 1 0 "Tomatoes-juice", "PDP and processing study"
161 "11005RA","8", 0.00045 0.1 1 0 "Tomatoes-puree", "PDP and processing study"

162 "11005TA","8", 0.00045 0.1 1 0 "Tomatoes-paste", "PDP and processing study"
163 "11005UA","8", 0.00045 0.1 1 0 "Tomatoes-catsup", "PDP and processing study"
164 "11006AA","8", 0.005 0.24 1 0 "Groundcherries", ""
165 "13001AA","2", 0.005 0.24 1 0 "Beets-garden-tops(greens)", ""
166 "13002AA","4B", 0.005 0.24 1 0 "Celery", ""
167 "13003AA","4A", 0.005 0.24 1 0 "Chicory(french/belgian endive)", ""
168 "13005AA","5A", 0.00122 1 1 0 "Broccoli", "PDP 94"
169 "13006AA","5A", 0.00217 1 1 0 "Brussels sprouts", "PDP 94 from broccoli"
170 "13007AA","5A", 0.00136 1 1 0 "Cabbage-green and red", "FDA data"
171 "13008AA","5A", 0.000046 1 1 0 "Cauliflower", "FDA"
172 "13009AA","5B", 0.0015 1 1 0 "Collards", "FDA"
174 "13011AA","5B", 0.006 1 1 0 "Kale", "FDA"
175 "13012AA","5A", 0.0015 1 1 0 "Kohlrabi", "collards"
176 "13013AA","4A", 0.005 0.24 1 0 "Lettuce-leafy varieties", ""
177 "13014AA","4A", 0.005 0.24 1 0 "Dandelion-greens", ""
178 "13015AA","4A", 0.005 0.24 1 0 "Endive-curley and escarole", ""
179 "13016AA","19B", 0.005 0.24 1 0 "Fennel", ""
180 "13017AA","4A", 0.005 0.24 1 0 "Cress-garden/field", ""
181 "13018AA","O", 0.005 0.24 1 0 "Artichokes-globe", ""
182 "13020AA","4A", 0.005 0.24 1 0 "Lettuce-unspecified", ""
183 "13021AA","5B", 0.0015 1 1 0 "Mustard greens", "collards"
184 "13022AA","4A", 0.005 0.24 1 0 "Parsley", ""
185 "13023AA","4B", 0.005 0.24 1 0 "Rhubarb", ""
186 "13024AA","4A", 0.005 0.24 1 0 "Spinach", ""
187 "13025AA","4B", 0.005 0.24 1 0 "Swiss chard", ""
188 "13026AA","2", 0.0015 1 1 0 "Turnips-tops", "Sweet Potato data"
189 "13027AA","O", 0.005 0.24 1 0 "Watercress", ""
190 "13034AA","2", 0.005 0.24 1 0 "Taro-greens", ""
191 "13039AA","4A", 0.005 0.24 1 0 "Cress-upland", ""
192 "13045AA","4A", 0.005 0.24 1 0 "Lettuce-head varieties", ""
193 "13047AA","O", 0.005 0.24 1 0 "Lambsquarter", ""
194 "13048AA","O", 0.005 0.24 1 0 "Cactus pads (nopal)", ""
195 "13049AA","O", 0.00272 1.5 1 1 "Grapes-leaves", "PDP 1994-1997"
  14 Boiled, 0.00272 1.5 1 "PDP 1994-1997"
196 "13999AA","O", 0.005 0.24 1 0 "Oriental vegetables/leafy", ""
197 "14001AA","1AB", 0.005 0.24 1 0 "Beets-garden-roots", ""
198 "14003AA","1AB", 0.005 0.24 1 0 "Carrots", ""
199 "14004AA","1AB", 0.005 0.24 1 0 "Celeriac", ""
200 "14005AA","19A", 0.005 0.24 1 0 "Chives", ""
201 "14006AA","1CD", 0.005 0.24 1 0 "Taro-root", ""
202 "14007AA","3", 0.005 0.24 1 0 "Garlic", ""
203 "14009AA","1CD", 0.005 0.24 1 0 "Artichokes-jerusalem", ""
204 "14010AA","3", 0.005 0.24 1 0 "Leeks", ""
205 "14011AA","3", 0.00002 1 1 0 "Onions-dry-bulb (cipollini)", "1992 - 1997 FDA and 13% crop treated"
206 "14011DA","3", 0.00002 9 1 0 "Onions-dehydrated or dried", ""
207 "14013AA","1C", 0.005 0.24 1 0 "Potatoes/white-whole", ""
208 "14013AB","1C", 0.005 0.24 1 0 "Potatoes/white-unspecified", ""
209 "14013AC","1C", 0.005 0.24 1 0 "Potatoes/white-peeled", ""
210 "14013DA","1C", 0.005 0.24 1 0 "Potatoes/white-dry", ""
211 "14013HA","1C", 0.005 0.24 1 0 "Potatoes/white-peel only", ""
212 "14014AA","1AB", 0.0043 1 1 0 "Radishes-roots", "FDA"
213 "14014AB","2", 0.0015 1 1 0 "Radishes-tops", "PDP from sweet potato"
214 "14015AA","1AB", 0.0011 1 1 0 "Rutabagas-roots", "PDP from sweet potato"
216 "14016AA","1AB", 0.005 0.24 1 0 "Salsify(oyster plant)", ""
217 "14017AA","3", 0.005 0.24 1 0 "Shallots", ""
218 "14018AA","1CD", 0.0011 1 1 6 "Sweet potatoes (incl yams)", "PDP 1994-1997"
  12 Cooked: NFS, 0.0011 1 1 "PDP 1994-1997"

13 Baked, 0.0011 1 1 "PDP 1994-1997"
14 Boiled, 0.0011 1 1 "PDP 1994-1997"
15 Fried, 0.0011 1 1 "PDP 1994-1997"
32 Canned: Cooked, 0.0011 0.15 1 "PDP 1994-1997"
34 Canned: Boiled, 0.0011 0.15 1 "PDP 1994-1997"
219 "14019AA","1AB", 0.0011 1 1 0 "Turnips-roots", "Sweet Potato data"
220 "14021AA","1AB", 0.005 0.24 1 0 "Parsnips", ""
221 "14024AA","1CD", 0.005 0.24 1 0 "Yam-bean tuber (jicama)", ""
222 "14026AA","1CD", 0.005 0.24 1 0 "Cassava (yuca blanca)", ""
224 "14028AA","1CD", 0.005 0.24 1 0 "Yautia (tanier)", ""
225 "14030AA","1AB", 0.005 0.24 1 0 "Parsley roots", ""
226 "14031AA","O", 0.005 0.24 1 0 "Water chestnuts", ""
227 "15001AA","6C", 0.00025 1 1 0 "Beans-dry-great northern", "1/2Tolerance and % crop treated"
228 "15001AB","6C", 0.00025 1 1 0 "Beans-dry-kidney", "1/2Tolerance and % crop treated"
229 "15001AC","6C", 0.00025 1 1 0 "Beans-dry-lima", "1/2Tolerance and % crop treated"
230 "15001AD","6C", 0.00025 1 1 0 "Beans-dry-navy (pea)", "1/2Tolerance and % crop treated"
231 "15001AE","6C", 0.00025 1 1 0 "Beans-dry-other", "1/2Tolerance and % crop treated"
232 "15001AF","6C", 0.00025 1 1 0 "Beans-dry-pinto", "1/2Tolerance and % crop treated"
233 "15002AA","6B", 0.000032 1 1 0 "Beans-succulent-lima", "PDP and % crop treated"
234 "15003AA","6A", 0.000032 1 1 0 "Beans-succulent-green", "PDP 96 and 97"
235 "15003AB","6A", 0.000032 1 1 0 "Beans-succulent-other", "PDP and % crop treated"
236 "15003AC","6A", 0.000032 1 1 0 "Beans-succulent-yellow/wax", "PDP and % crop treated"
237 "15004AA","15", 0.005 0.24 1 0 "Corn/pop", ""
240 "15007AA","6C", 0.00025 1 1 0 "Peas (garden)-dry", "1/2Tolerance and % crop treated"
241 "15009AA","6AB", 0.000033 1 1 0 "Peas (garden)-green", "PDP 1996"
243 "15011AB","6C", 0.00025 1 1 0 "Lentils", "Tolerance and % crop treated"
244 "15013AA","6C", 0.00025 1 1 0 "Mung beans (sprouts)", "from beans"
245 "15015AA","O", 0.005 0.24 1 0 "Okra", ""
247 "15020AA","O", 0.005 0.24 1 0 "Carob", ""
248 "15021AA","O", 0.005 0.24 1 0 "Alfalfa sprouts", ""
249 "15022AA","6C", 0.00025 1 1 0 "Beans-dry-broadbeans", "1/2Tolerance and % crop treated"
250 "15022AB","6B", 0.000032 1 1 0 "Beans-succulent-broadbeans", "PDP and % crop treated"
251 "15023AA","6C", 0.00025 1 1 0 "Beans-dry-pigeon beans", "1/2Tolerance and % crop treated"
252 "15026AA","O", 0.005 0.24 1 0 "Sesame seeds", ""
253 "15027AA","6", 0.000032 1 1 0 "Beans-unspecified", "PDP and % crop treated"
254 "15028AA","O", 0.005 0.24 1 0 "Pinenuts", ""
255 "15029AA","6A", 0.00032 0.33 1 0 "Soybeans-sprouted seeds", "Knizner Memo."
256 "15030AA","6C", 0.00025 1 1 0 "Beans-dry-hyacinth", "1/2Tolerance and % crop treated"
257 "15030AB","6", 0.000032 1 1 0 "Beans-succulent-hyacinth", "PDP and % crop treated"
258 "15031AA","6C", 0.00025 1 1 0 "Beans-dry-blackeye peas/cowpea", "1/2Tolerance and % crop treated"
259 "15032AA","6C", 0.00025 1 1 0 "Beans-dry-garbanzo/chick pea", "1/2Tolerance and % crop treated"
260 "16002AA","O", 0.00313 1 1 0 "Asparagus", "93-97 FDA and % crop treated"
262 "16004AA","3", 0.005 0.24 1 0 "Onions-green", ""
263 "16007AA","O", 0.005 0.24 1 0 "Poke greens", ""
264 "16008AA","O", 0.005 0.24 1 0 "Bamboo shoots", ""
265 "24001AA","15", 0.005 0.24 1 0 "Barley", ""
266 "24002EA","15", 0.00077 0.22 1 0 "Corn grain-endosperm", "Field trial"
267 "24002HA","15", 0.00077 1 1 0 "Corn grain-bran", "Field trial"
268 "24002SA","15", 0.00077 0.05 1 0 "Corn grain/sugar/hfcs", "Field trial"
269 "24003AA","15", 0.005 0.24 1 0 "Oats", ""
270 "24004AA","15", 0.005 0.24 1 0 "Rice-rough (brown)", ""
271 "24004AB","15", 0.005 0.24 1 0 "Rice-milled (white)", ""
272 "24005AA","15", 0.005 0.24 1 0 "Rye-rough", ""
273 "24005GA","15", 0.005 0.24 1 0 "Rye-germ", ""
274 "24005WA","15", 0.005 0.24 1 0 "Rye-flour", ""
275 "24006AA","15", 0.005 0.24 1 0 "Sorghum (including milo)", ""
276 "24007AA","15", 0.0032 0.86 1 4 "Wheat-rough", "PDP 1995-1997"

11 Uncooked, 0.0032 0.86 1 "PDP 1995-1997"
12 Cooked: NFS, 0.0032 0.86 1 "PDP 1995-1997"
13 Baked, 0.0032 0.36 1 "PDP 1995-1997"
14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
277 "24007GA","15", 0.0032 2.7 1 0 "Wheat-germ", "PDP 1995-1997"
278 "24007HA","15", 0.0032 3 1 0 "Wheat-bran", "PDP 1995-1997"
279 "24007WA","15", 0.0032 0.145 1 14 "Wheat-flour", "PDP 1995-1997"
11 Uncooked, 0.0032 0.145 1 "PDP 1995-1997"
12 Cooked: NFS, 0.0032 0.145 1 "PDP 1995-1997"
13 Baked, 0.0032 0.145 1 "PDP 1995-1997"
14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
15 Fried, 0.0032 0.145 1 "PDP 1995-1997"
31 Canned: NFS, 0.0032 0.145 1 "PDP 1995-1997"
32 Canned: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
33 Canned: Baked, 0.0032 0.145 1 "PDP 1995-1997"
34 Canned: Boiled, 0.0032 0.026 1 "PDP 1995-1997"
41 Frozen: NFS, 0.0032 0.145 1 "PDP 1995-1997"
42 Frozen: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
43 Frozen: Baked, 0.0032 0.145 1 "PDP 1995-1997"
45 Frozen: Fried, 0.0032 0.145 1 "PDP 1995-1997"
52 Cured: Cooked(smokd/, 0.0032 0.145 1 "PDP 1995-1997"
280 "24012AA","15", 0.005 0.24 1 0 "Millet", ""
281 "25001AA","O", 0.005 0.24 1 0 "Honey", ""
282 "25002SA","1A", 0.000628 1 1 1 "Sugar-beet", "PDP from Sweet Potato"
98 Refined, 0.000628 0.1 1 "PDP from Sweet Potato"
285 "25004SA","O", 0.005 0.24 1 0 "Maple sugar", ""
286 "26001AA","15", 0.005 0.24 1 0 "Buckwheat", ""
287 "26011AA","6C", 0.00025 1 1 0 "Guar beans", "Tolerance and % crop treated"
288 "27001OA","O", 0.005 0.24 1 0 "Castor beans", ""
289 "27002OA","15", 0.00077 4.5 1 0 "Corn grain-oil", "Field trial"
290 "27003OA","O", 0.0023 1 1 0 "Cottonseed-oil", "Field trial % crop treated and processing factor."
291 "27003WA","O", 0.005 0.24 1 0 "Cottonseed-meal", ""
292 "27004AA","O", 0.005 0.24 1 0 "Flax seed", ""
293 "27007OA","O", 0.001 2 1 0 "Peanuts-oil", "steve knizner 7/95 ar memo for the processing fact"
294 "27008AA","O", 0.005 0.24 1 0 "Safflower-seed", ""
295 "27008OA","O", 0.005 0.24 1 0 "Safflower-oil", ""
296 "27009OA","O", 0.005 0.24 1 0 "Sesame-oil", ""
297 "27010OA","6A", 0.00032 0.14 1 0 "Soybeans-oil", "Knizner Memo. Reduction factor."
298 "27011OA","O", 0.00046 1 1 0 "Sunflower-oil", "knizner 7/95 memo"
299 "27015OA","O", 0.005 0.24 1 0 "Coconut-oil", ""
300 "27016OA","O", 0.005 0.24 1 0 "Olive oil", ""
301 "27017OL","O", 0.005 0.24 1 0 "Canola oil (rape seed oil)", ""
302 "27019OA","O", 0.005 0.24 1 0 "Palm oil", ""
303 "15023AA","6A", 0.00032 1 1 0 "Soybean-other", "Knizner Memo."
304 "28023AB","6A", 0.00032 1 1 0 "Soybeans-mature seeds dry", "Knizner Memo."
305 "28023WA","6A", 0.00032 1 1 0 "Soybeans-flour (full fat)", "Knizner Memo."
306 "28023WB","6A", 0.00032 1 1 0 "Soybeans-flour (low fat)", "Knizner Memo."
307 "28023WC","6A", 0.00032 1 1 0 "Soybeans-flour (defatted)", "Knizner Memo."
308 "28024AB","O", 0.005 0.24 1 0 "Oriental vegetables/non-leafy", ""
309 "28040AA","O", 0.005 0.24 1 0 "Seeds (misc.)", ""
310 "28080AA","O", 0.005 0.24 1 0 "Peppermint", ""
311 "28080OA","O", 1.52 1 1 0 "Peppermint-oil", "Tolerance of Hay, 10x CF, percent crop treated"
312 "28081AA","O", 0.005 0.24 1 0 "Spearmint", ""
313 "28081OA","O", 1.52 1 1 0 "Spearmint-oil", "Hay tolerance x 10 CF x percent crop treated"
314 "43057AA","O", 0.005 0.24 1 0 "Vinegar", ""
315 "43058AA","O", 0.00272 0.02 1 1 "Grapes-wine and sherry", "PDP 1994-1997"
99 Alcohol/Fermented/Di, 0.00272 0.02 1 "PDP 1994-1997"

316 "43059AA","O", 0.005 0.24 1 0 "Alcohol-distilled", ""
317 "43060AA","O", 0.0002 1 1 0 "Gelatin", "from lean beef"
321 "53001BA","M", 0.0002 0.5 1 0 "Beef-meat byproducts", "Registrants' Market Basket Survey"
322 "53001BB","M", 0.0002 0.5 1 0 "Beef-other organ meats", "Registrants' Market Basket Survey"
323 "53001DA","M", 0.0002 0.96 1 0 "Beef-dried", "Registrants' Market Basket Survey"
324 "53001FA","M", 0.001 0.5 1 0 "Beef-fat w/o bones", "Registrants' Market Basket Survey"
325 "53001KA","M", 0.0002 0.5 1 0 "Beef-kidney", "Registrants' Market Basket Survey"
326 "53001LA","M", 0.0002 0.5 1 0 "Beef-liver", "Registrants' Market Basket Survey"
327 "53001MA","M", 0.0002 0.5 1 0 "Beef-lean (fat/free) w/o bones", "Registrants' Market Basket Survey"
328 "53002BA","M", 0.0002 0.5 1 0 "Goat-meat byproducts", "Registrants' Market Basket Survey"
329 "53002BB","M", 0.0002 0.5 1 0 "Goat-other organ meats", "Registrants' Market Basket Survey"
330 "53002FA","M", 0.001 0.5 1 0 "Goat-fat w/o bone", "Registrants' Market Basket Survey"
331 "53002KA","M", 0.0002 0.5 1 0 "Goat-kidney", "Registrants' Market Basket Survey"
332 "53002LA","M", 0.0002 0.5 1 0 "Goat-liver", "Registrants' Market Basket Survey"
333 "53002MA","M", 0.0002 0.5 1 0 "Goat-lean (fat/free) w/o bone", "Registrants' Market Basket Survey"
334 "53003AA","M", 0.0002 0.5 1 0 "Horsemeat", "Translated from Beef."
336 "53005BA","M", 0.0002 0.5 1 0 "Sheep-meat byproducts", "Market Basket"
337 "53005BB","M", 0.0002 0.5 1 0 "Sheep-other organ meats", "Market Basket"
338 "53005FA","M", 0.001 0.5 1 0 "Sheep-fat w/o bone", "Market Basket"
339 "53005KA","M", 0.0002 0.5 1 0 "Sheep-kidney", "Market Basket"
340 "53005LA","M", 0.0002 0.5 1 0 "Sheep-liver", "Market Basket"
341 "53005MA","M", 0.0002 0.5 1 0 "Sheep-lean (fat free) w/o bone", "Market Basket"
342 "53006BA","M", 0.0001 0.5 1 0 "Pork-meat byproducts", "Pork Sausage"
343 "53006BB","M", 0.0001 0.5 1 0 "Pork-other organ meats", "Pork Sausage"
344 "53006FA","M", 0.0005 0.5 1 0 "Pork-fat w/o bone", "Pork Sausage"
345 "53006KA","M", 0.0001 0.5 1 0 "Pork-kidney", "Pork Sausage"
346 "53006LA","M", 0.0001 0.5 1 0 "Pork-liver", "Pork Sausage"
347 "53006MA","M", 0.0001 0.5 1 0 "Pork-lean (fat free) w/o bone", "Pork Sausage"
349 "53013AA","F", 0.005 0.24 1 0 "Fish-shellfish", ""
350 "53014AA","O", 0.005 0.24 1 0 "Meat-game", ""
351 "53015AA","F", 0.005 0.24 1 0 "Fish-roe/caviar", ""
352 "53016AA","F", 0.005 0.24 1 0 "Fish-finfish/freshwater", ""
353 "53017AA","F", 0.005 0.24 1 0 "Fish-finfish/saltwater (incl. tuna)", ""
354 "53017DA","F", 0.005 0.24 1 0 "Fish-finfish-saltwater-dried", ""
355 "55008BA","P", 0.000002 0.5 1 0 "Turkey-byproducts", "Dietary Burden Calculation"
356 "55008LA","P", 0.000002 0.5 1 0 "Turkey-giblets (liver)", "Dietary Burden Calculation"
357 "55008MA","P", 0.000027 0.5 1 0 "Turkey--fat w/o bones", "Dietary Burden Calculation"
358 "55008MB","P", 0.000002 0.5 1 0 "Turkey- lean/fat free w/o bones", "Dietary Burden Calculation"
360 "55013BA","P", 0.000002 0.5 1 0 "Poultry-other-lean (fat free) w/o bone", "dietary burden"
361 "55013LA","P", 0.000002 0.5 1 0 "Poultry-other-giblets(liver)", "dietary burden"
362 "55013MA","P", 0.000027 0.5 1 0 "Poultry-other-fat w/o bones", "dietary burden"
363 "55014AA","P", 0.000004 1 1 0 "Eggs-whole", "Dietary Burden"
364 "55014AB","P", 0.000004 1 1 0 "Eggs-white only", "Dietary Burden"
365 "55014AC","P", 0.000004 1 1 0 "Eggs-yolk only", "Dietary Burden"
366 "55015BA","P", 0.000002 0.5 1 0 "Chicken-byproducts", "Dietary Burden Calculations"
367 "55015LA","P", 0.000002 0.5 1 0 "Chicken-giblets(liver)", "Dietary Burden Calculations"
368 "55015MA","P", 0.000027 0.5 1 0 "Chicken-fat w/o bones", "Dietary Burden Calculations"
369 "55015MB","P", 0.000002 0.5 1 0 "Chicken-lean/fat free w/o bones", "Dietary Burden Calculations"
376 "18000JA","O", 0.005 0.24 1 0 "Aloe vera-juice", ""
377 "04001JC","11", 0.00032 3 1 4 "Apples-juice-concentrate", "PDP 94-96 with 44% crop treated"
   12 Cooked: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
   13 Baked, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
   31 Canned: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
   41 Frozen: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
378 "06002NA","O", 0.00039 1 1 0 "Bananas-juice", ""
379 "25002MO","1A", 0.000628 1 1 1 "Sugar-beet-molasses", "PDP from Sweet Potato"
   98 Refined, 0.000628 1 1 "PDP from Sweet Potato "

380 "01002JA","13A", 0.005 0.24 1 0 "Blackberries-juice", ""
381 "08031AA","19B", 0.005 0.24 1 0 "Pepper/black", ""
382 "14022AA","1AB", 0.005 0.24 1 0 "Burdock", ""
383 "13007SA","5B", 0.00136 1 1 0 "Cabbage-savoy", "FDA data"
384 "13002JA","4B", 0.005 0.24 1 0 "Celery juice", ""
385 "55015EL","P", 0.000002 0.5 1 0 "Chicken-giblets (excl. liver)", "Dietary Burden Calculations"
386 "19000AA","9B", 0.005 0.24 1 0 "Christophine", ""
387 "06003MK","O", 0.005 0.24 1 0 "Coconut-milk", ""
388 "24002MO","15", 0.00077 0.05 1 0 "Corn grain/sugar-molasses", "Field trial"
389 "01010JC","O", 0.0202 1 1 0 "Cranberries-juice-concentrate", "Cranberry Institute data"
390 "13064AA","O", 0.005 0.24 1 0 "Fern shoots (fiddleheads)", ""
392 "01014JC","O", 0.00272 0.9 1 5 "Grapes-juice-concentrate", "PDP 1994-1997"
   12 Cooked: NFS, 0.00272 0.9 1 "PDP 1994-1997"
   13 Baked, 0.00272 0.9 1 "PDP 1994-1997"
   14 Boiled, 0.00272 0.9 1 "PDP 1994-1997"
   31 Canned: NFS, 0.00272 0.9 1 "PDP 1994-1997"
   41 Frozen: NFS, 0.00272 0.9 1 "PDP 1994-1997"
393 "06006NA","O", 0.005 0.24 1 0 "Guava-juice", ""
394 "06051AA","O", 0.005 0.24 1 0 "Jackfruit", ""
395 "19001AA","O", 0.005 0.24 1 0 "Jobo", ""
396 "14025AA","O", 0.005 0.24 1 0 "Lotus root", ""
397 "10018AA","9B", 0.005 0.24 1 0 "Okra/chinese (luffa)", ""
399 "24003BR","15", 0.005 0.24 1 0 "Oats-bran", ""
400 "19002AA","O", 0.005 0.24 1 0 "Palm hearts", ""
401 "06014NA","O", 0.005 0.24 1 0 "Passion fruit-juice", ""
402 "05004JA","12", 0.0011 1 1 2 "Peaches-juice", "PDP"
   11 Uncooked, 0.0011 1 1 "PDP"
   31 Canned: NFS, 0.0011 1 1 "PDP"
403 "15006BT","O", 0.0051 1 1 2 "Peanuts-butter", "market basket"
   13 Baked, 0.0051 1 1 "market basket"
   14 Boiled, 0.0051 1 1 "market basket"
404 "04003NA","11", 0.00066 0.15 1 0 "Pears-juice", "1997 PDP"
405 "15008AA","6B", 0.000033 1 1 0 "Peas-succulent/blackeye/cowpea", "PDP 1996"
406 "06013JC","O", 0.005 0.24 1 0 "Pineapples-juice-concentrate", ""
407 "14023AA","1AB", 0.0043 1 1 0 "Radishes-japanese (daiken)", "FDA"
408 "24004BR","15", 0.005 0.24 1 0 "Rice-bran", ""
409 "24013AA","15", 0.005 0.24 1 0 "Rice-wild", ""
410 "05001JA","12", 0.005 0.24 1 0 "Apricot juice", ""
411 "13065AA","O", 0.005 0.24 1 0 "Seaweed", ""
412 "10032AA","O", 0.005 0.24 1 0 "Sequin (portuguese squash)", ""
413 "15009AB","6A", 0.000033 1 1 0 "Snowpeas", "PDP 1996"
414 "06024NA","O", 0.005 0.24 1 0 "Soursop-juice", ""
415 "10019AA","9B", 0.005 0.24 1 0 "Squash-spaghetti", ""
416 "01016JA","O", 0.00021 0.3 1 0 "Strawberries-juice", "FDA data"
417 "15018HA","O", 0.00046 1 1 0 "Sunflower-seeds", "acute AR * 1% crop treated"
418 "14018LV","2", 0.0011 1 1 0 "Sweet potatos-leaves", "PDP 1994-1997"
419 "08039AA","O", 0.005 0.24 1 0 "Tamarind", ""
420 "02008JC","10", 0.00022 3.2 1 0 "Tangerines-juice-concentrate", "market basket"
422 "13066LA","O", 0.005 0.24 1 0 "Thistle leaves", ""
423 "11005DA","8", 0.00045 14.3 1 0 "Tomatoes-dried", "PDP "
431 "030090L","14", 0.015 1 1 0 "Walnut oil", "Field trials from Walnuts and Almonds"
436 "10008JA","9A", 0.005 0.24 1 0 "Watermelon-juice", ""
437 "24007OL","15", 0.0032 2.7 1 0 "Wheat-germ oil", "PDP 1995-1997"
438 "20000AA","O", 0.005 0.24 1 0 "Wi-apple", ""
439 "10021AA","9B", 0.005 0.24 1 0 "Wintermelon", ""
440 "20001AA","O", 0.005 0.24 1 0 "Yeast", ""
441 "02002JC","10", 0.000165 3.93 1 0 "Grapefruit-juice-concentrate", "market basket"

442 "02004JC","10", 0.00041 5.7 1 0 "Lemons-juice-concentrate", "market basket"
443 "02005JC","10", 0.00022 3 1 0 "Limes-juice-concentrate", "market basket"
447 "No Code","4A", 0.005 0.24 1 0 "Chervil", ""
448 "02002HA","10", 0.00055 8 1 0 "Grapefruit peel", "Translated from oranges"
449 "No Code","P", 0.000002 0.5 1 0 "Turkey-other organ meats", "Dietary Burden Calculation"
450 "No Code","1AB", 0.005 0.24 1 0 "Ginseng", ""
451 "No Code","5A", 0.00122 1 1 0 "Broccoli-chinese", "PDP 94 from broccoli"
452 "No Code","5B", 0.0015 1 1 0 "Bok choy", "FDA data"
460 "No Code","O", 0.005 0.24 1 0 "Seafood-misc(turtle/frog)", ""
467 "08010AA","19B", 0.005 0.24 1 0 "Celery seed", ""
473 "26014AA","O", 0.005 0.24 1 0 "Sapodilla", ""
480 "06016GA","O", 0.00039 1 1 0 "Plantains-green", ""
481 "06016DA","O", 0.00039 3.9 1 0 "Plantains-dried", ""
482 "No Code","O", 0.00032 1 1 0 "Soybeans-protein isolate", "Knizner Memo."
483 "No Code","O", 0.005 0.24 1 0 "Chayote", ""
484 "No Code","O", 0.0043 1 1 0 "Radishes-oriental", "FDA"
485 "No Code","O", 0.005 0.24 1 0 "Leaves (misc)", ""
489 "No Code","O", 0.005 0.24 1 0 "Vanilla", ""
491 "No Code","O", 0.005 0.24 1 0 "Arugula", ""
492 "No Code","O", 0.005 0.24 1 0 "Radicchio", ""
493 "No Code","O", 0.005 0.24 1 0 "Tarragon", ""
494 "No Code","O", 0.005 0.24 1 0 "Saffron", ""
495 "No Code","O", 0.005 0.24 1 0 "Cilantro", ""
496 "No Code","O", 0.005 0.24 1 0 "Nopales", ""
497 "No Code","9B", 0.005 0.24 1 0 "Balsam pear", ""
498 "No Code","4A", 0.005 0.24 1 0 "Amaranth", ""
890 "No Code","O", 0.005 0.24 1 0 "Miscellaneous/nfs", ""
891 "No Code","O", 0.005 0.24 1 0 "Jute", ""
892 "No Code","O", 0.005 0.24 1 0 "Chrysanthemum", ""
893 "No Code","O", 0.005 0.24 1 0 "Salt", ""
894 "No Code","O", 0.005 0.24 1 0 "Leavening agents", ""
895 "No Code","O", 0.005 0.24 1 0 "Psyllium", ""
896 "No Code","O", 0.005 0.24 1 0 "Sweeteners-artificial", ""
897 "No Code","O", 0.005 0.24 1 0 "Gums/gels", ""
911 "No Code","O", 0.005 0.24 1 0 "Molasses-nfs", ""
940 "No Code","O", 0.001 1 1 0 "Peanuts-hulled", "FDA and 10 % CT"

Attachment 2.c. DEEM File for Chronic Analysis Using the Registrant's NFS Market Basket Apple Data for Fresh Apples.

```
"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:55:49
-1  "This is for chronic dietary exposure analysis."
 999  0
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute data"
 13 "01014AA","O", 0.00272  1  1  4 "Grapes", "PDP 1994-1997"
    11 Uncooked, 0.00272  1  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  1  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  1  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00272  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.17  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.17  1 "PDP 1994-1997"
    13 Baked, 0.00272  0.17  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.17  1 "PDP 1994-1997"
    18 Dried, 0.00272  0.17  1 "PDP 1994-1997"
    42 Frozen: Cooked, 0.00272  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00272  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.3  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    34 Canned: Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  0.3  1 "PDP 1994-1997"
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market basket"
 34 "02006AB","10", 0.0012  1  1  3 "Oranges-peeled fruit", "PDP"
    11 Uncooked, 0.0012  1  1 "PDP"
    12 Cooked: NFS, 0.0012  1  1 "PDP"
    31 Canned: NFS, 0.0005  1  1 "PDP"
 35 "02006HA","10", 0.0012  15  1  4 "Oranges-peel", "PDP"
    11 Uncooked, 0.0012  15  1 "PDP"
    12 Cooked: NFS, 0.0012  15  1 "PDP"
    31 Canned: NFS, 0.0005  15  1 "PDP"
    41 Frozen: NFS, 0.0005  15  1 "PDP"
 36 "02006JA","10", 0.00012  1  1  0 "Oranges-juice", "market basket"
 37 "02007AA","10", 0.00073  1  1  0 "Tangelos", "PDP from Oranges"
 38 "02008AA","10", 0.00073  1  1  0 "Tangerines", "PDP from Oranges"
 39 "02008JA","10", 0.00022  1  1  0 "Tangerines-juice", "market basket"
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40 "03001AA","14", 0.01 1 1 0 "Almonds", "Field trials from Walnuts and Almonds"
44 "03005AA","14", 0.003 1 1 0 "Filberts (hazelnuts)", "Field trials from Walnuts and Almonds"
46 "03007AA","14", 0.003 1 1 0 "Macadamia nuts (bush nuts)", "Field trials from Walnuts and Almonds"
47 "03008AA","14", 0.014 1 1 0 "Pecans", "Field trials from Walnuts and Almonds"
48 "03009AA","14", 0.015 1 1 0 "Walnuts", "Field trials from Walnuts and Almonds"
52 "04001AA","11", 0.0042 1 1 11 "Apples", "PDP"
   11 Uncooked, 0.0042 1 1 "PDP"
   12 Cooked: NFS, 0.0042 0.15 1 "PDP"
   13 Baked, 0.0042 0.15 1 "PDP"
   14 Boiled, 0.0005 1 1 "market basket"
   15 Fried, 0.0042 0.15 1 "PDP"
   18 Dried, 0.0042 1.2 1 "PDP"
   31 Canned: NFS, 0.0005 1 1 "market basket"
   32 Canned: Cooked, 0.0005 1 1 "market basket"
   33 Canned: Baked, 0.0005 1 1 "market basket"
   34 Canned: Boiled, 0.0005 1 1 "market basket"
   42 Frozen: Cooked, 0.0005 1 1 "market basket"
53 "04001DA","11", 0.0042 1.2 1 4 "Apples-dried", "PDP 94-96 with 44% crop treated"
   13 Baked, 0.0042 1.2 1 "PDP 94-96 with 44% crop treated"
   14 Boiled, 0.0042 1.2 1 "PDP 94-96 with 44% crop treated"
   18 Dried, 0.0042 1.2 1 "PDP 94-96 with 44% crop treated"
   42 Frozen: Cooked, 0.0042 1.2 1 "PDP 94-96 with 44% crop treated"
54 "04001JA","11", 0.00032 1 1 5 "Apples-juice/cider", "PDP 94-96 with 44% crop treated"
   11 Uncooked, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   12 Cooked: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   14 Boiled, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   31 Canned: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   41 Frozen: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
56 "04003AA","11", 0.00066 1 1 5 "Pears", "1997 PDP"
   11 Uncooked, 0.00066 1 1 "1997 PDP"
   12 Cooked: NFS, 0.00066 0.15 1 "1997 PDP"
   13 Baked, 0.00066 0.15 1 "1997 PDP"
   14 Boiled, 0.00066 0.15 1 "1997 PDP"
   31 Canned: NFS, 0.00066 0.15 1 "1997 PDP"
57 "04003DA","11", 0.00066 0.94 1 3 "Pears-dried", "1997 PDP"
   13 Baked, 0.00066 0.94 1 "1997 PDP"
   14 Boiled, 0.00066 0.94 1 "1997 PDP"
   18 Dried, 0.00066 0.94 1 "1997 PDP"
61 "05002AA","12", 0.0012 1 1 0 "Cherries", "FDA"
62 "05002DA","12", 0.0012 4 1 0 "Cherries-dried", "FDA"
63 "05002JA","12", 0.0012 0.3 1 4 "Cherries-juice", "FDA"
   13 Baked, 0.0012 0.3 1 "FDA"
   14 Boiled, 0.0012 0.3 1 "FDA"
   31 Canned: NFS, 0.0012 0.3 1 "FDA"
   41 Frozen: NFS, 0.0012 0.3 1 "FDA"
64 "05003AA","12", 0.00073 1 1 1 "Nectarines", "PDP Peaches"
   11 Uncooked, 0.00073 1 1 "PDP Peaches"
65 "05004AA","12", 0.0011 1 1 6 "Peaches", "PDP"
   11 Uncooked, 0.0011 1 1 "PDP"
   12 Cooked: NFS, 0.0011 1 1 "PDP"
   13 Baked, 0.0011 1 1 "PDP"
   14 Boiled, 0.0011 1 1 "PDP"
   31 Canned: NFS, 0.000275 1 1 "PDP 1997 canned"
   41 Frozen: NFS, 0.000275 1 1 "PDP 1997 canned"
66 "05004DA","12", 0.0011 7 1 0 "Peaches-dried", "PDP"
67 "05005AA","12", 0.00046 1 1 5 "Plums (damsons)", "PDP from peaches"
   11 Uncooked, 0.00046 1 1 "PDP from peaches"

12 Cooked: NFS, 0.00046 1 1 "PDP from peaches"
31 Canned: NFS, 0.000125 1 1 "PDP from canned peaches"
42 Frozen: Cooked, 0.000125 1 1 "PDP from canned peaches"
51 Cured: NFS (smoked/p, 0.000125 1 1 "PDP from canned peaches"
68 "05005DA","12", 0.00046 5 1 0 "Plums-prunes (dried)", "PDP from peaches"
69 "05005JA","12", 0.00046 1.4 1 0 "Plums/prune-juice", "PDP from peaches"
72 "06002AB","O", 0.00039 1 1 0 "Bananas", ""
73 "06002DA","O", 0.00039 3.9 1 0 "Bananas-dried", ""
78 "06005AA","O", 0.0001 1 1 0 "Figs", "tolerance and 1% crop treated"
94 "06016AA","O", 0.00039 1 1 0 "Plantains-ripe", ""
97 "06018AA","O", 0.0213 0.15 1 0 "Kiwi fruit", "FDA"
148 "10010AA","9B", 0.000198 1 1 0 "Cucumbers", "FDA data"
149 "10011AA","9B", 0.000198 1 1 0 "Pumpkin", "Translated from Cucumbers"
155 "11003AA","8", 0.0083 1 1 0 "Peppers-sweet(garden)", "FDA "
156 "11003AB","8", 0.0083 1 1 0 "Peppers-chilli incl jalapeno", "FDA "
157 "11003AD","8", 0.0083 1 1 0 "Peppers-other", "FDA "
159 "11005AA","8", 0.0041 1 1 0 "Tomatoes-whole", "PDP"
160 "11005JA","8", 0.00045 0.03 1 0 "Tomatoes-juice", "PDP and processing study"
161 "11005RA","8", 0.00045 0.1 1 0 "Tomatoes-puree", "PDP and processing study"
162 "11005TA","8", 0.00045 0.1 1 0 "Tomatoes-paste", "PDP and processing study"
163 "11005UA","8", 0.00045 0.1 1 0 "Tomatoes-catsup", "PDP and processing study"
168 "13005AA","5A", 0.00122 1 1 0 "Broccoli", "PDP 94"
169 "13006AA","5A", 0.00217 1 1 0 "Brussels sprouts", "PDP 94 from broccoli"
170 "13007AA","5A", 0.00136 1 1 0 "Cabbage-green and red", "FDA data"
171 "13008AA","5A", 0.000046 1 1 0 "Cauliflower", "FDA"
172 "13009AA","5B", 0.0015 1 1 0 "Collards", "FDA"
174 "13011AA","5B", 0.006 1 1 0 "Kale", "FDA"
175 "13012AA","5A", 0.0015 1 1 0 "Kohlrabi", "collards"
183 "13021AA","5B", 0.0015 1 1 0 "Mustard greens", "collards"
188 "13026AA","2", 0.0015 1 1 0 "Turnips-tops", "Sweet Potato data"
195 "13049AA","O", 0.00272 1.5 1 1 "Grapes-leaves", "PDP 1994-1997"
14 Boiled, 0.00272 1.5 1 "PDP 1994-1997"
205 "14011AA","3", 0.00002 1 1 0 "Onions-dry-bulb (cipollini)", "1992 - 1997 FDA and 13% crop treated"
206 "14011DA","3", 0.00002 9 1 0 "Onions-dehydrated or dried", ""
212 "14014AA","1AB", 0.0043 1 1 0 "Radishes-roots", "FDA"
213 "14014AB","2", 0.0015 1 1 0 "Radishes-tops", "PDP from sweet potato"
214 "14015AA","1AB", 0.0011 1 1 0 "Rutabagas-roots", "PDP from sweet potato"
218 "14018AA","1CD", 0.0011 1 1 6 "Sweet potatoes (incl yams)", "PDP 1994-1997"
12 Cooked: NFS, 0.0011 1 1 "PDP 1994-1997"
13 Baked, 0.0011 1 1 "PDP 1994-1997"
14 Boiled, 0.0011 1 1 "PDP 1994-1997"
15 Fried, 0.0011 1 1 "PDP 1994-1997"
32 Canned: Cooked, 0.0011 0.15 1 "PDP 1994-1997"
34 Canned: Boiled, 0.0011 0.15 1 "PDP 1994-1997"
219 "14019AA","1AB", 0.0011 1 1 0 "Turnips-roots", "Sweet Potato data"
227 "15001AA","6C", 0.00025 1 1 0 "Beans-dry-great northern", "1/2Tolerance and % crop treated"
228 "15001AB","6C", 0.00025 1 1 0 "Beans-dry-kidney", "1/2Tolerance and % crop treated"
229 "15001AC","6C", 0.00025 1 1 0 "Beans-dry-lima", "1/2Tolerance and % crop treated"
230 "15001AD","6C", 0.00025 1 1 0 "Beans-dry-navy (pea)", "1/2Tolerance and % crop treated"
231 "15001AE","6C", 0.00025 1 1 0 "Beans-dry-other", "1/2Tolerance and % crop treated"
232 "15001AF","6C", 0.00025 1 1 0 "Beans-dry-pinto", "1/2Tolerance and % crop treated"
233 "15002AA","6B", 0.000032 1 1 0 "Beans-succulent-lima", "PDP and % crop treated"
234 "15003AA","6A", 0.000032 1 1 0 "Beans-succulent-green", "PDP 96 and 97"
235 "15003AB","6A", 0.000032 1 1 0 "Beans-succulent-other", "PDP and % crop treated"
236 "15003AC","6A", 0.000032 1 1 0 "Beans-succulent-yellow/wax", "PDP and % crop treated"
240 "15007AA","6C", 0.00025 1 1 0 "Peas (garden)-dry", "1/2Tolerance and % crop treated"
241 "15009AA","6AB", 0.000033 1 1 0 "Peas (garden)-green", "PDP 1996"

243 "15011AB","6C", 0.00025 1 1 0 "Lentils", "Tolerance and % crop treated"
244 "15013AA","6C", 0.00025 1 1 0 "Mung beans (sprouts)", "from beans"
249 "15022AA","6C", 0.00025 1 1 0 "Beans-dry-broadbeans", "1/2Tolerance and % crop treated"
250 "15022AB","6B", 0.000032 1 1 0 "Beans-succulent-broadbeans", "PDP and % crop treated"
251 "15023AA","6C", 0.00025 1 1 0 "Beans-dry-pigeon beans", "1/2Tolerance and % crop treated"
253 "15027AA","6", 0.000032 1 1 0 "Beans-unspecified", "PDP and % crop treated"
255 "15029AA","6A", 0.00032 0.33 1 0 "Soybeans-sprouted seeds", "Knizner Memo."
256 "15030AA","6C", 0.00025 1 1 0 "Beans-dry-hyacinth", "1/2Tolerance and % crop treated"
257 "15030AB","6", 0.000032 1 1 0 "Beans-succulent-hyacinth", "PDP and % crop treated"
258 "15031AA","6C", 0.00025 1 1 0 "Beans-dry-blackeye peas/cowpea", "1/2Tolerance and % crop treated"
259 "15032AA","6C", 0.00025 1 1 0 "Beans-dry-garbanzo/chick pea", "1/2Tolerance and % crop treated"
260 "16002AA","O", 0.00313 1 1 0 "Asparagus", "93-97 FDA and % crop treated"
266 "24002EA","15", 0.00077 0.22 1 0 "Corn grain-endosperm", "Field trial"
267 "24002HA","15", 0.00077 1 1 0 "Corn grain-bran", "Field trial"
268 "24002SA","15", 0.00077 0.05 1 0 "Corn grain/sugar/hfcs", "Field trial"
276 "24007AA","15", 0.0032 0.86 1 4 "Wheat-rough", "PDP 1995-1997"
11 Uncooked, 0.0032 0.86 1 "PDP 1995-1997"
12 Cooked: NFS, 0.0032 0.86 1 "PDP 1995-1997"
13 Baked, 0.0032 0.36 1 "PDP 1995-1997"
14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
277 "24007GA","15", 0.0032 2.7 1 0 "Wheat-germ", "PDP 1995-1997"
278 "24007HA","15", 0.0032 3 1 0 "Wheat-bran", "PDP 1995-1997"
279 "24007WA","15", 0.0032 0.145 1 14 "Wheat-flour", "PDP 1995-1997"
11 Uncooked, 0.0032 0.145 1 "PDP 1995-1997"
12 Cooked: NFS, 0.0032 0.145 1 "PDP 1995-1997"
13 Baked, 0.0032 0.145 1 "PDP 1995-1997"
14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
15 Fried, 0.0032 0.145 1 "PDP 1995-1997"
31 Canned: NFS, 0.0032 0.145 1 "PDP 1995-1997"
32 Canned: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
33 Canned: Baked, 0.0032 0.145 1 "PDP 1995-1997"
34 Canned: Boiled, 0.0032 0.026 1 "PDP 1995-1997"
41 Frozen: NFS, 0.0032 0.145 1 "PDP 1995-1997"
42 Frozen: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
43 Frozen: Baked, 0.0032 0.145 1 "PDP 1995-1997"
45 Frozen: Fried, 0.0032 0.145 1 "PDP 1995-1997"
52 Cured: Cooked(smokd/, 0.0032 0.145 1 "PDP 1995-1997"
282 "25002SA","1A", 0.000628 1 1 1 "Sugar-beet", "PDP from Sweet Potato"
98 Refined, 0.000628 0.1 1 "PDP from Sweet Potato"
287 "26011AA","6C", 0.00025 1 1 0 "Guar beans", "Tolerance and % crop treated"
289 "27002OA","15", 0.00077 4.5 1 0 "Corn grain-oil", "Field trial"
290 "27003OA","O", 0.0023 1 1 0 "Cottonseed-oil", "Field trial % crop treated and processing factor."
293 "27007OA","O", 0.001 2 1 0 "Peanuts-oil", "steve knizner 7/95 ar memo for the processing fact"
297 "27010OA","6A", 0.00032 0.14 1 0 "Soybeans-oil", "Knizner Memo. Reduction factor."
298 "27011OA","O", 0.00046 1 1 0 "Sunflower-oil", "knizner 7/95 memo"
303 "15023AA","6A", 0.00032 1 1 0 "Soybean-other", "Knizner Memo."
304 "28023AB","6A", 0.00032 1 1 0 "Soybeans-mature seeds dry", "Knizner Memo."
305 "28023WA","6A", 0.00032 1 1 0 "Soybeans-flour (full fat)", "Knizner Memo."
306 "28023WB","6A", 0.00032 1 1 0 "Soybeans-flour (low fat)", "Knizner Memo."
307 "28023WC","6A", 0.00032 1 1 0 "Soybeans-flour (defatted)", "Knizner Memo."
311 "28080OA","O", 1.52 1 1 0 "Peppermint-oil", "Tolerance of Hay, 10x CF, percent crop treated"
313 "28081OA","O", 1.52 1 1 0 "Spearmint-oil", "Hay tolerance x 10 CF x percent crop treated"
315 "43058AA","O", 0.00272 0.02 1 1 "Grapes-wine and sherry", "PDP 1994-1997"
99 Alcohol/Fermented/Di, 0.00272 0.02 1 "PDP 1994-1997"
317 "43060AA","O", 0.0002 1 1 0 "Gelatin", "from lean beef"
321 "53001BA","M", 0.0002 0.5 1 0 "Beef-meat byproducts", "Registrants' Market Basket Survey"
322 "53001BB","M", 0.0002 0.5 1 0 "Beef-other organ meats", "Registrants' Market Basket Survey"

323 "53001DA","M", 0.0002 0.96 1 0 "Beef-dried", "Registrants' Market Basket Survey"
324 "53001FA","M", 0.001 0.5 1 0 "Beef-fat w/o bones", "Registrants' Market Basket Survey"
325 "53001KA","M", 0.0002 0.5 1 0 "Beef-kidney", "Registrants' Market Basket Survey"
326 "53001LA","M", 0.0002 0.5 1 0 "Beef-liver", "Registrants' Market Basket Survey"
327 "53001MA","M", 0.0002 0.5 1 0 "Beef-lean (fat/free) w/o bones", "Registrants' Market Basket Survey"
328 "53002BA","M", 0.0002 0.5 1 0 "Goat-meat byproducts", "Registrants' Market Basket Survey"
329 "53002BB","M", 0.0002 0.5 1 0 "Goat-other organ meats", "Registrants' Market Basket Survey"
330 "53002FA","M", 0.001 0.5 1 0 "Goat-fat w/o bone", "Registrants' Market Basket Survey"
331 "53002KA","M", 0.0002 0.5 1 0 "Goat-kidney", "Registrants' Market Basket Survey"
332 "53002LA","M", 0.0002 0.5 1 0 "Goat-liver", "Registrants' Market Basket Survey"
333 "53002MA","M", 0.0002 0.5 1 0 "Goat-lean (fat/free) w/o bone", "Registrants' Market Basket Survey"
334 "53003AA","M", 0.0002 0.5 1 0 "Horsemeat", "Translated from Beef."
336 "53005BA","M", 0.0002 0.5 1 0 "Sheep-meat byproducts", "Market Basket"
337 "53005BB","M", 0.0002 0.5 1 0 "Sheep-other organ meats", "Market Basket"
338 "53005FA","M", 0.001 0.5 1 0 "Sheep-fat w/o bone", "Market Basket"
339 "53005KA","M", 0.0002 0.5 1 0 "Sheep-kidney", "Market Basket"
340 "53005LA","M", 0.0002 0.5 1 0 "Sheep-liver", "Market Basket"
341 "53005MA","M", 0.0002 0.5 1 0 "Sheep-lean (fat free) w/o bone", "Market Basket"
342 "53006BA","M", 0.0001 0.5 1 0 "Pork-meat byproducts", "Pork Sausage"
343 "53006BB","M", 0.0001 0.5 1 0 "Pork-other organ meats", "Pork Sausage"
344 "53006FA","M", 0.0005 0.5 1 0 "Pork-fat w/o bone", "Pork Sausage"
345 "53006KA","M", 0.0001 0.5 1 0 "Pork-kidney", "Pork Sausage"
346 "53006LA","M", 0.0001 0.5 1 0 "Pork-liver", "Pork Sausage"
347 "53006MA","M", 0.0001 0.5 1 0 "Pork-lean (fat free) w/o bone", "Pork Sausage"
355 "55008BA","P", 0.000002 0.5 1 0 "Turkey-byproducts", "Dietary Burden Calculation"
356 "55008LA","P", 0.000002 0.5 1 0 "Turkey-giblets (liver)", "Dietary Burden Calculation"
357 "55008MA","P", 0.000027 0.5 1 0 "Turkey--fat w/o bones", "Dietary Burden Calculation"
358 "55008MB","P", 0.000002 0.5 1 0 "Turkey- lean/fat free w/o bones", "Dietary Burden Calculation"
360 "55013BA","P", 0.000002 0.5 1 0 "Poultry-other-lean (fat free) w/o bone", "dietary burden"
361 "55013LA","P", 0.000002 0.5 1 0 "Poultry-other-giblets(liver)", "dietary burden"
362 "55013MA","P", 0.000027 0.5 1 0 "Poultry-other-fat w/o bones", "dietary burden"
363 "55014AA","P", 0.000004 1 1 0 "Eggs-whole", "Dietary Burden"
364 "55014AB","P", 0.000004 1 1 0 "Eggs-white only", "Dietary Burden"
365 "55014AC","P", 0.000004 1 1 0 "Eggs-yolk only", "Dietary Burden"
366 "55015BA","P", 0.000002 0.5 1 0 "Chicken-byproducts", "Dietary Burden Calculations"
367 "55015LA","P", 0.000002 0.5 1 0 "Chicken-giblets(liver)", "Dietary Burden Calculations"
368 "55015MA","P", 0.000027 0.5 1 0 "Chicken-fat w/o bones", "Dietary Burden Calculations"
369 "55015MB","P", 0.000002 0.5 1 0 "Chicken-lean/fat free w/o bones", "Dietary Burden Calculations"
377 "04001JC","11", 0.00032 3 1 4 "Apples-juice-concentrate", "PDP 94-96 with 44% crop treated"
12 Cooked: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
13 Baked, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
31 Canned: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
41 Frozen: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
378 "06002NA","O", 0.00039 1 1 0 "Bananas-juice", ""
379 "25002MO","1A", 0.000628 1 1 1 "Sugar-beet-molasses", "PDP from Sweet Potato"
98 Refined, 0.000628 1 1 "PDP from Sweet Potato "
383 "13007SA","5B", 0.00136 1 1 0 "Cabbage-savoy", "FDA data"
385 "55015EL","P", 0.000002 0.5 1 0 "Chicken-giblets (excl. liver)", "Dietary Burden Calculations"
388 "24002MO","15", 0.00077 0.05 1 0 "Corn grain/sugar-molasses", "Field trial"
389 "01010JC","O", 0.0202 1 1 0 "Cranberries-juice-concentrate", "Cranberry institute data"
392 "01014JC","O", 0.00272 0.9 1 5 "Grapes-juice-concentrate", "PDP 1994-1997"
12 Cooked: NFS, 0.00272 0.9 1 "PDP 1994-1997"
13 Baked, 0.00272 0.9 1 "PDP 1994-1997"
14 Boiled, 0.00272 0.9 1 "PDP 1994-1997"
31 Canned: NFS, 0.00272 0.9 1 "PDP 1994-1997"
41 Frozen: NFS, 0.00272 0.9 1 "PDP 1994-1997"
402 "05004JA","12", 0.0011 1 1 2 "Peaches-juice", "PDP"

11 Uncooked, 0.0011 1 1 "PDP"
31 Canned: NFS, 0.0011 1 1 "PDP"
403 "15006BT","O", 0.0051 1 1 2 "Peanuts-butter", "market basket"
13 Baked, 0.0051 1 1 "market basket"
14 Boiled, 0.0051 1 1 "market basket"
404 "04003NA","11", 0.00066 0.15 1 0 "Pears-juice", "1997 PDP"
405 "15008AA","6B", 0.000033 1 1 0 "Peas-succulent/blackeye/cowpea", "PDP 1996"
407 "14023AA","1AB", 0.0043 1 1 0 "Radishes-japanese (daiken)", "FDA"
413 "15009AB","6A", 0.000033 1 1 0 "Snowpeas", "PDP 1996"
416 "01016JA","O", 0.00021 0.3 1 0 "Strawberries-juice", "FDA data"
417 "15018HA","O", 0.00046 1 1 0 "Sunflower-seeds", "acute AR * 1% crop treated"
418 "14018LV","2", 0.0011 1 1 0 "Sweet potatos-leaves", "PDP 1994-1997"
420 "02008JC","10", 0.00022 3.2 1 0 "Tangerines-juice-concentrate", "market basket"
423 "11005DA","8", 0.00045 14.3 1 0 "Tomatoes-dried", "PDP "
431 "030090L","14", 0.015 1 1 0 "Walnut oil", "Field trials from Walnuts and Almonds"
437 "24007OL","15", 0.0032 2.7 1 0 "Wheat-germ oil", "PDP 1995-1997"
441 "02002JC","10", 0.000165 3.93 1 0 "Grapefruit-juice-concentrate", "market basket"
442 "02004JC","10", 0.00041 5.7 1 0 "Lemons-juice-concentrate", "market basket"
443 "02005JC","10", 0.00022 3 1 0 "Limes-juice-concentrate", "market basket"
448 "02002HA","10", 0.00055 8 1 0 "Grapefruit peel", "Translated from oranges"
449 "No Code","P", 0.000002 0.5 1 0 "Turkey-other organ meats", "Dietary Burden Calculation"
451 "No Code","5A", 0.00122 1 1 0 "Broccoli-chinese", "PDP 94 from broccoli"
452 "No Code","5B", 0.0015 1 1 0 "Bok choy", "FDA data"
480 "06016GA","O", 0.00039 1 1 0 "Plantains-green", ""
481 "06016DA","O", 0.00039 3.9 1 0 "Plantains-dried", ""
482 "No Code","O", 0.00032 1 1 0 "Soybeans-protein isolate", "Knizner Memo."
484 "No Code","O", 0.0043 1 1 0 "Radishes-oriental", "FDA"
940 "No Code","O", 0.001 1 1 0 "Peanuts-hulled", "FDA and 10 % CT"

Attachment 2. d. DEEM File for Chronic Analysis Using PDP Apple Data and Including Violative Results on Squash, Spinach and Carrots

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"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:54:57
-1  "This is for chronic dietary exposure analysis."
 999  0
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute data"
 13 "01014AA","O", 0.00272  1  1  4 "Grapes", "PDP 1994-1997"
    11 Uncooked, 0.00272  1  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  1  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  1  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00272  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.17  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.17  1 "PDP 1994-1997"
    13 Baked, 0.00272  0.17  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.17  1 "PDP 1994-1997"
    18 Dried, 0.00272  0.17  1 "PDP 1994-1997"
    42 Frozen: Cooked, 0.00272  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00272  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
    11 Uncooked, 0.00272  0.3  1 "PDP 1994-1997"
    12 Cooked: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    14 Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    31 Canned: NFS, 0.00272  0.3  1 "PDP 1994-1997"
    34 Canned: Boiled, 0.00272  0.3  1 "PDP 1994-1997"
    41 Frozen: NFS, 0.00272  0.3  1 "PDP 1994-1997"
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market basket"
 34 "02006AB","10", 0.0012  1  1  3 "Oranges-peeled fruit", "PDP"
    11 Uncooked, 0.0012  1  1 "PDP"
    12 Cooked: NFS, 0.0012  1  1 "PDP"
    31 Canned: NFS, 0.0005  1  1 "PDP"
 35 "02006HA","10", 0.0012  15  1  4 "Oranges-peel", "PDP"
    11 Uncooked, 0.0012  15  1 "PDP"
    12 Cooked: NFS, 0.0012  15  1 "PDP"
    31 Canned: NFS, 0.0005  15  1 "PDP"
    41 Frozen: NFS, 0.0005  15  1 "PDP"
 36 "02006JA","10", 0.00012  1  1  0 "Oranges-juice", "market basket"
 37 "02007AA","10", 0.00073  1  1  0 "Tangelos", "PDP from Oranges"
 38 "02008AA","10", 0.00073  1  1  0 "Tangerines", "PDP from Oranges"
 39 "02008JA","10", 0.00022  1  1  0 "Tangerines-juice", "market basket"
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40 "03001AA","14", 0.01 1 1 0 "Almonds", "Field trials from Walnuts and Almonds"
44 "03005AA","14", 0.003 1 1 0 "Filberts (hazelnuts)", "Field trials from Walnuts and Almonds"
46 "03007AA","14", 0.003 1 1 0 "Macadamia nuts (bush nuts)", "Field trials from Walnuts and Almonds"
47 "03008AA","14", 0.014 1 1 0 "Pecans", "Field trials from Walnuts and Almonds"
48 "03009AA","14", 0.015 1 1 0 "Walnuts", "Field trials from Walnuts and Almonds"
52 "04001AA","11", 0.00635 1 1 11 "Apples", "PDP"
   11 Uncooked, 0.00635 1 1 "PDP"
   12 Cooked: NFS, 0.00635 0.15 1 "PDP"
   13 Baked, 0.00635 0.15 1 "PDP"
   14 Boiled, 0.0005 1 1 "market basket"
   15 Fried, 0.00635 0.15 1 "PDP"
   18 Dried, 0.00635 1.2 1 "PDP"
   31 Canned: NFS, 0.0005 1 1 "market basket"
   32 Canned: Cooked, 0.0005 1 1 "market basket"
   33 Canned: Baked, 0.0005 1 1 "market basket"
   34 Canned: Boiled, 0.0005 1 1 "market basket"
   42 Frozen: Cooked, 0.0005 1 1 "market basket"
53 "04001DA","11", 0.00635 1.2 1 4 "Apples-dried", "PDP 94-96 with 44% crop treated"
   13 Baked, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
   14 Boiled, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
   18 Dried, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
   42 Frozen: Cooked, 0.00635 1.2 1 "PDP 94-96 with 44% crop treated"
54 "04001JA","11", 0.00032 1 1 5 "Apples-juice/cider", "PDP 94-96 with 44% crop treated"
   11 Uncooked, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   12 Cooked: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   14 Boiled, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   31 Canned: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
   41 Frozen: NFS, 0.00032 1 1 "PDP 94-96 with 44% crop treated"
56 "04003AA","11", 0.00066 1 1 5 "Pears", "1997 PDP"
   11 Uncooked, 0.00066 1 1 "1997 PDP"
   12 Cooked: NFS, 0.00066 0.15 1 "1997 PDP"
   13 Baked, 0.00066 0.15 1 "1997 PDP"
   14 Boiled, 0.00066 0.15 1 "1997 PDP"
   31 Canned: NFS, 0.00066 0.15 1 "1997 PDP"
57 "04003DA","11", 0.00066 0.94 1 3 "Pears-dried", "1997 PDP"
   13 Baked, 0.00066 0.94 1 "1997 PDP"
   14 Boiled, 0.00066 0.94 1 "1997 PDP"
   18 Dried, 0.00066 0.94 1 "1997 PDP"
61 "05002AA","12", 0.0012 1 1 0 "Cherries", "FDA"
62 "05002DA","12", 0.0012 4 1 0 "Cherries-dried", "FDA"
63 "05002JA","12", 0.0012 0.3 1 4 "Cherries-juice", "FDA"
   13 Baked, 0.0012 0.3 1 "FDA"
   14 Boiled, 0.0012 0.3 1 "FDA"
   31 Canned: NFS, 0.0012 0.3 1 "FDA"
   41 Frozen: NFS, 0.0012 0.3 1 "FDA"
64 "05003AA","12", 0.00073 1 1 1 "Nectarines", "PDP Peaches"
   11 Uncooked, 0.00073 1 1 "PDP Peaches"
65 "05004AA","12", 0.0011 1 1 6 "Peaches", "PDP"
   11 Uncooked, 0.0011 1 1 "PDP"
   12 Cooked: NFS, 0.0011 1 1 "PDP"
   13 Baked, 0.0011 1 1 "PDP"
   14 Boiled, 0.0011 1 1 "PDP"
   31 Canned: NFS, 0.000275 1 1 "PDP 1997 canned"
   41 Frozen: NFS, 0.000275 1 1 "PDP 1997 canned"
66 "05004DA","12", 0.0011 7 1 0 "Peaches-dried", "PDP"
67 "05005AA","12", 0.00046 1 1 5 "Plums (damsons)", "PDP from peaches"
   11 Uncooked, 0.00046 1 1 "PDP from peaches"

12 Cooked: NFS, 0.00046 1 1 "PDP from peaches"
31 Canned: NFS, 0.000125 1 1 "PDP from canned peaches"
42 Frozen: Cooked, 0.000125 1 1 "PDP from canned peaches"
51 Cured: NFS (smoked/p, 0.000125 1 1 "PDP from canned peaches"
68 "05005DA","12", 0.00046 5 1 0 "Plums-prunes (dried)", "PDP from peaches"
69 "05005JA","12", 0.00046 1.4 1 0 "Plums/prune-juice", "PDP from peaches"
72 "06002AB","O", 0.00039 1 1 0 "Bananas", ""
73 "06002DA","O", 0.00039 3.9 1 0 "Bananas-dried", ""
78 "06005AA","O", 0.0001 1 1 0 "Figs", "tolerance and 1% crop treated"
94 "06016AA","O", 0.00039 1 1 0 "Plantains-ripe", ""
97 "06018AA","O", 0.0213 0.15 1 0 "Kiwi fruit", "FDA"
148 "10010AA","9B", 0.000198 1 1 0 "Cucumbers", "FDA data"
149 "10011AA","9B", 0.000198 1 1 0 "Pumpkin", "Translated from Cucumbers"
150 "10013AA","9B", 0.00003 1 1 0 "Squash-summer", ""
151 "10014AA","9B", 0.00003 1 1 0 "Squash-winter", ""
155 "11003AA","8", 0.0083 1 1 0 "Peppers-sweet(garden)", "FDA "
156 "11003AB","8", 0.0083 1 1 0 "Peppers-chilli incl jalapeno", "FDA "
157 "11003AD","8", 0.0083 1 1 0 "Peppers-other", "FDA "
159 "11005AA","8", 0.0041 1 1 0 "Tomatoes-whole", "PDP"
160 "11005JA","8", 0.00045 0.03 1 0 "Tomatoes-juice", "PDP and processing study"
161 "11005RA","8", 0.00045 0.1 1 0 "Tomatoes-puree", "PDP and processing study"
162 "11005TA","8", 0.00045 0.1 1 0 "Tomatoes-paste", "PDP and processing study"
163 "11005UA","8", 0.00045 0.1 1 0 "Tomatoes-catsup", "PDP and processing study"
168 "13005AA","5A", 0.00122 1 1 0 "Broccoli", "PDP 94"
169 "13006AA","5A", 0.00217 1 1 0 "Brussels sprouts", "PDP 94 from broccoli"
170 "13007AA","5A", 0.00136 1 1 0 "Cabbage-green and red", "FDA data"
171 "13008AA","5A", 0.000046 1 1 0 "Cauliflower", "FDA"
172 "13009AA","5B", 0.0015 1 1 0 "Collards", "FDA"
174 "13011AA","5B", 0.006 1 1 0 "Kale", "FDA"
175 "13012AA","5A", 0.0015 1 1 0 "Kohlrabi", "collards"
183 "13021AA","5B", 0.0015 1 1 0 "Mustard greens", "collards"
186 "13024AA","4A", 0.00054 1 1 0 "Spinach", ""
188 "13026AA","2", 0.0015 1 1 0 "Turnips-tops", "Sweet Potato data"
195 "13049AA","O", 0.00272 1.5 1 1 "Grapes-leaves", "PDP 1994-1997"
14 Boiled, 0.00272 1.5 1 "PDP 1994-1997"
198 "14003AA","1AB", 0.0001 1 1 0 "Carrots", ""
205 "14011AA","3", 0.00002 1 1 0 "Onions-dry-bulb (cipollini)", "1992 - 1997 FDA and 13% crop treated"
206 "14011DA","3", 0.00002 9 1 0 "Onions-dehydrated or dried", ""
212 "14014AA","1AB", 0.0043 1 1 0 "Radishes-roots", "FDA"
213 "14014AB","2", 0.0015 1 1 0 "Radishes-tops", "PDP from sweet potato"
214 "14015AA","1AB", 0.0011 1 1 0 "Rutabagas-roots", "PDP from sweet potato"
218 "14018AA","1CD", 0.0011 1 1 6 "Sweet potatoes (incl yams)", "PDP 1994-1997"
12 Cooked: NFS, 0.0011 1 1 "PDP 1994-1997"
13 Baked, 0.0011 1 1 "PDP 1994-1997"
14 Boiled, 0.0011 1 1 "PDP 1994-1997"
15 Fried, 0.0011 1 1 "PDP 1994-1997"
32 Canned: Cooked, 0.0011 0.15 1 "PDP 1994-1997"
34 Canned: Boiled, 0.0011 0.15 1 "PDP 1994-1997"
219 "14019AA","1AB", 0.0011 1 1 0 "Turnips-roots", "Sweet Potato data"
227 "15001AA","6C", 0.00025 1 1 0 "Beans-dry-great northern", "1/2Tolerance and % crop treated"
228 "15001AB","6C", 0.00025 1 1 0 "Beans-dry-kidney", "1/2Tolerance and % crop treated"
229 "15001AC","6C", 0.00025 1 1 0 "Beans-dry-lima", "1/2Tolerance and % crop treated"
230 "15001AD","6C", 0.00025 1 1 0 "Beans-dry-navy (pea)", "1/2Tolerance and % crop treated"
231 "15001AE","6C", 0.00025 1 1 0 "Beans-dry-other", "1/2Tolerance and % crop treated"
232 "15001AF","6C", 0.00025 1 1 0 "Beans-dry-pinto", "1/2Tolerance and % crop treated"
233 "15002AA","6B", 0.000032 1 1 0 "Beans-succulent-lima", "PDP and % crop treated"
234 "15003AA","6A", 0.000032 1 1 0 "Beans-succulent-green", "PDP 96 and 97"

235 "15003AB","6A", 0.000032 1 1 0 "Beans-succulent-other", "PDP and % crop treated"
236 "15003AC","6A", 0.000032 1 1 0 "Beans-succulent-yellow/wax", "PDP and % crop treated"
240 "15007AA","6C", 0.00025 1 1 0 "Peas (garden)-dry", "1/2Tolerance and % crop treated"
241 "15009AA","6AB", 0.000033 1 1 0 "Peas (garden)-green", "PDP 1996"
243 "15011AB","6C", 0.00025 1 1 0 "Lentils", "Tolerance and % crop treated"
244 "15013AA","6C", 0.00025 1 1 0 "Mung beans (sprouts)", "from beans"
249 "15022AA","6C", 0.00025 1 1 0 "Beans-dry-broadbeans", "1/2Tolerance and % crop treated"
250 "15022AB","6B", 0.000032 1 1 0 "Beans-succulent-broadbeans", "PDP and % crop treated"
251 "15023AA","6C", 0.00025 1 1 0 "Beans-dry-pigeon beans", "1/2Tolerance and % crop treated"
253 "15027AA","6", 0.000032 1 1 0 "Beans-unspecified", "PDP and % crop treated"
255 "15029AA","6A", 0.00032 0.33 1 0 "Soybeans-sprouted seeds", "Knizner Memo."
256 "15030AA","6C", 0.00025 1 1 0 "Beans-dry-hyacinth", "1/2Tolerance and % crop treated"
257 "15030AB","6", 0.000032 1 1 0 "Beans-succulent-hyacinth", "PDP and % crop treated"
258 "15031AA","6C", 0.00025 1 1 0 "Beans-dry-blackeye peas/cowpea", "1/2Tolerance and % crop treated"
259 "15032AA","6C", 0.00025 1 1 0 "Beans-dry-garbanzo/chick pea", "1/2Tolerance and % crop treated"
260 "16002AA","O", 0.00313 1 1 0 "Asparagus", "93-97 FDA and % crop treated"
266 "24002EA","15", 0.00077 0.22 1 0 "Corn grain-endosperm", "Field trial"
267 "24002HA","15", 0.00077 1 1 0 "Corn grain-bran", "Field trial"
268 "24002SA","15", 0.00077 0.05 1 0 "Corn grain/sugar/hfcs", "Field trial"
276 "24007AA","15", 0.0032 0.86 1 4 "Wheat-rough", "PDP 1995-1997"
   11 Uncooked, 0.0032 0.86 1 "PDP 1995-1997"
   12 Cooked: NFS, 0.0032 0.86 1 "PDP 1995-1997"
   13 Baked, 0.0032 0.36 1 "PDP 1995-1997"
   14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
277 "24007GA","15", 0.0032 2.7 1 0 "Wheat-germ", "PDP 1995-1997"
278 "24007HA","15", 0.0032 3 1 0 "Wheat-bran", "PDP 1995-1997"
279 "24007WA","15", 0.0032 0.145 1 14 "Wheat-flour", "PDP 1995-1997"
   11 Uncooked, 0.0032 0.145 1 "PDP 1995-1997"
   12 Cooked: NFS, 0.0032 0.145 1 "PDP 1995-1997"
   13 Baked, 0.0032 0.145 1 "PDP 1995-1997"
   14 Boiled, 0.0032 0.026 1 "PDP 1995-1997"
   15 Fried, 0.0032 0.145 1 "PDP 1995-1997"
   31 Canned: NFS, 0.0032 0.145 1 "PDP 1995-1997"
   32 Canned: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
   33 Canned: Baked, 0.0032 0.145 1 "PDP 1995-1997"
   34 Canned: Boiled, 0.0032 0.026 1 "PDP 1995-1997"
   41 Frozen: NFS, 0.0032 0.145 1 "PDP 1995-1997"
   42 Frozen: Cooked, 0.0032 0.145 1 "PDP 1995-1997"
   43 Frozen: Baked, 0.0032 0.145 1 "PDP 1995-1997"
   45 Frozen: Fried, 0.0032 0.145 1 "PDP 1995-1997"
   52 Cured: Cooked(smokd/, 0.0032 0.145 1 "PDP 1995-1997"
282 "25002SA","1A", 0.000628 1 1 1 "Sugar-beet", "PDP from Sweet Potato"
   98 Refined, 0.000628 0.1 1 "PDP from Sweet Potato"
287 "26011AA","6C", 0.00025 1 1 0 "Guar beans", "Tolerance and % crop treated"
289 "27002OA","15", 0.00077 4.5 1 0 "Corn grain-oil", "Field trial"
290 "27003OA","O", 0.0023 1 1 0 "Cottonseed-oil", "Field trial % crop treated and processing factor."
293 "27007OA","O", 0.001 2 1 0 "Peanuts-oil", "steve knizner 7/95 ar memo for the processing fact"
297 "27010OA","6A", 0.00032 0.14 1 0 "Soybeans-oil", "Knizner Memo. Reduction factor."
298 "27011OA","O", 0.00046 1 1 0 "Sunflower-oil", "knizner 7/95 memo"
303 "15023AA","6A", 0.00032 1 1 0 "Soybean-other", "Knizner Memo."
304 "28023AB","6A", 0.00032 1 1 0 "Soybeans-mature seeds dry", "Knizner Memo."
305 "28023WA","6A", 0.00032 1 1 0 "Soybeans-flour (full fat)", "Knizner Memo."
306 "28023WB","6A", 0.00032 1 1 0 "Soybeans-flour (low fat)", "Knizner Memo."
307 "28023WC","6A", 0.00032 1 1 0 "Soybeans-flour (defatted)", "Knizner Memo."
311 "28080OA","O", 1.52 1 1 0 "Peppermint-oil", "Tolerance of Hay, 10x CF, percent crop treated"
313 "28081OA","O", 1.52 1 1 0 "Spearmint-oil", "Hay tolerance x 10 CF x percent crop treated"
315 "43058AA","O", 0.00272 0.02 1 1 "Grapes-wine and sherry", "PDP 1994-1997"

99 Alcohol/Fermented/Di, 0.00272 0.02 1 "PDP 1994-1997"
317 "43060AA","O", 0.0002 1 1 0 "Gelatin", "from lean beef"
321 "53001BA","M", 0.0002 0.5 1 0 "Beef-meat byproducts", "Registrants' Market Basket Survey"
322 "53001BB","M", 0.0002 0.5 1 0 "Beef-other organ meats", "Registrants' Market Basket Survey"
323 "53001DA","M", 0.0002 0.96 1 0 "Beef-dried", "Registrants' Market Basket Survey"
324 "53001FA","M", 0.001 0.5 1 0 "Beef-fat w/o bones", "Registrants' Market Basket Survey"
325 "53001KA","M", 0.0002 0.5 1 0 "Beef-kidney", "Registrants' Market Basket Survey"
326 "53001LA","M", 0.0002 0.5 1 0 "Beef-liver", "Registrants' Market Basket Survey"
327 "53001MA","M", 0.0002 0.5 1 0 "Beef-lean (fat/free) w/o bones", "Registrants' Market Basket Survey"
328 "53002BA","M", 0.0002 0.5 1 0 "Goat-meat byproducts", "Registrants' Market Basket Survey"
329 "53002BB","M", 0.0002 0.5 1 0 "Goat-other organ meats", "Registrants' Market Basket Survey"
330 "53002FA","M", 0.001 0.5 1 0 "Goat-fat w/o bone", "Registrants' Market Basket Survey"
331 "53002KA","M", 0.0002 0.5 1 0 "Goat-kidney", "Registrants' Market Basket Survey"
332 "53002LA","M", 0.0002 0.5 1 0 "Goat-liver", "Registrants' Market Basket Survey"
333 "53002MA","M", 0.0002 0.5 1 0 "Goat-lean (fat/free) w/o bone", "Registrants' Market Basket Survey"
334 "53003AA","M", 0.0002 0.5 1 0 "Horsemeat", "Translated from Beef."
336 "53005BA","M", 0.0002 0.5 1 0 "Sheep-meat byproducts", "Market Basket"
337 "53005BB","M", 0.0002 0.5 1 0 "Sheep-other organ meats", "Market Basket"
338 "53005FA","M", 0.001 0.5 1 0 "Sheep-fat w/o bone", "Market Basket"
339 "53005KA","M", 0.0002 0.5 1 0 "Sheep-kidney", "Market Basket"
340 "53005LA","M", 0.0002 0.5 1 0 "Sheep-liver", "Market Basket"
341 "53005MA","M", 0.0002 0.5 1 0 "Sheep-lean (fat free) w/o bone", "Market Basket"
342 "53006BA","M", 0.0001 0.5 1 0 "Pork-meat byproducts", "Pork Sausage"
343 "53006BB","M", 0.0001 0.5 1 0 "Pork-other organ meats", "Pork Sausage"
344 "53006FA","M", 0.0005 0.5 1 0 "Pork-fat w/o bone", "Pork Sausage"
345 "53006KA","M", 0.0001 0.5 1 0 "Pork-kidney", "Pork Sausage"
346 "53006LA","M", 0.0001 0.5 1 0 "Pork-liver", "Pork Sausage"
347 "53006MA","M", 0.0001 0.5 1 0 "Pork-lean (fat free) w/o bone", "Pork Sausage"
355 "55008BA","P", 0.000002 0.5 1 0 "Turkey-byproducts", "Dietary Burden Calculation"
356 "55008LA","P", 0.000002 0.5 1 0 "Turkey-giblets (liver)", "Dietary Burden Calculation"
357 "55008MA","P", 0.000027 0.5 1 0 "Turkey--fat w/o bones", "Dietary Burden Calculation"
358 "55008MB","P", 0.000002 0.5 1 0 "Turkey- lean/fat free w/o bones", "Dietary Burden Calculation"
360 "55013BA","P", 0.000002 0.5 1 0 "Poultry-other-lean (fat free) w/o bone", "dietary burden"
361 "55013LA","P", 0.000002 0.5 1 0 "Poultry-other-giblets(liver)", "dietary burden"
362 "55013MA","P", 0.000027 0.5 1 0 "Poultry-other-fat w/o bones", "dietary burden"
363 "55014AA","P", 0.000004 1 1 0 "Eggs-whole", "Dietary Burden"
364 "55014AB","P", 0.000004 1 1 0 "Eggs-white only", "Dietary Burden"
365 "55014AC","P", 0.000004 1 1 0 "Eggs-yolk only", "Dietary Burden"
366 "55015BA","P", 0.000002 0.5 1 0 "Chicken-byproducts", "Dietary Burden Calculations"
367 "55015LA","P", 0.000002 0.5 1 0 "Chicken-giblets(liver)", "Dietary Burden Calculations"
368 "55015MA","P", 0.000027 0.5 1 0 "Chicken-fat w/o bones", "Dietary Burden Calculations"
369 "55015MB","P", 0.000002 0.5 1 0 "Chicken-lean/fat free w/o bones", "Dietary Burden Calculations"
377 "04001JC","11", 0.00032 3 1 4 "Apples-juice-concentrate", "PDP 94-96 with 44% crop treated"
12 Cooked: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
13 Baked, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
31 Canned: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
41 Frozen: NFS, 0.00032 3 1 "PDP 94-96 with 44% crop treated"
378 "06002NA","O", 0.00039 1 1 0 "Bananas-juice", ""
379 "25002MO","1A", 0.000628 1 1 1 "Sugar-beet-molasses", "PDP from Sweet Potato"
98 Refined, 0.000628 1 1 "PDP from Sweet Potato "
383 "13007SA","5B", 0.00136 1 1 0 "Cabbage-savoy", "FDA data"
385 "55015EL","P", 0.000002 0.5 1 0 "Chicken-giblets (excl. liver)", "Dietary Burden Calculations"
388 "24002MO","15", 0.00077 0.05 1 0 "Corn grain/sugar-molasses", "Field trial"
389 "01010JC","O", 0.0202 1 1 0 "Cranberries-juice-concentrate", "Cranberry Institute data"
392 "01014JC","O", 0.00272 0.9 1 5 "Grapes-juice-concentrate", "PDP 1994-1997"
12 Cooked: NFS, 0.00272 0.9 1 "PDP 1994-1997"
13 Baked, 0.00272 0.9 1 "PDP 1994-1997"

14 Boiled, 0.00272 0.9 1 "PDP 1994-1997"
31 Canned: NFS, 0.00272 0.9 1 "PDP 1994-1997"
41 Frozen: NFS, 0.00272 0.9 1 "PDP 1994-1997"
402 "05004JA","12", 0.0011 1 1 2 "Peaches-juice", "PDP"
11 Uncooked, 0.0011 1 1 "PDP"
31 Canned: NFS, 0.0011 1 1 "PDP"
403 "15006BT","O", 0.0051 1 1 2 "Peanuts-butter", "market basket"
13 Baked, 0.0051 1 1 "market basket"
14 Boiled, 0.0051 1 1 "market basket"
404 "04003NA","11", 0.00066 1 1 0 "Pears-juice", "1997 PDP"
405 "15008AA","6B", 0.000033 1 1 0 "Peas-succulent/blackeye/cowpea", "PDP 1996"
407 "14023AA","1AB", 0.0043 1 1 0 "Radishes-japanese (daiken)", "FDA"
413 "15009AB","6A", 0.000033 1 1 0 "Snowpeas", "PDP 1996"
415 "10019AA","9B", 0.00003 1 1 0 "Squash-spaghetti", ""
416 "01016JA","O", 0.00021 0.3 1 0 "Strawberries-juice", "FDA data"
417 "15018HA","O", 0.00046 1 1 0 "Sunflower-seeds", "acute AR * 1% crop treated"
418 "14018LV","2", 0.0011 1 1 0 "Sweet potatos-leaves", "PDP 1994-1997"
420 "02008JC","10", 0.00022 3.2 1 0 "Tangerines-juice-concentrate", "market basket"
423 "11005DA","8", 0.00045 14.3 1 0 "Tomatoes-dried", "PDP "
431 "030090L","14", 0.015 1 1 0 "Walnut oil", "Field trials from Walnuts and Almonds"
437 "24007OL","15", 0.0032 2.7 1 0 "Wheat-germ oil", "PDP 1995-1997"
441 "02002JC","10", 0.000165 3.93 1 0 "Grapefruit-juice-concentrate", "market basket"
442 "02004JC","10", 0.00041 5.7 1 0 "Lemons-juice-concentrate", "market basket"
443 "02005JC","10", 0.00022 3 1 0 "Limes-juice-concentrate", "market basket"
448 "02002HA","10", 0.00055 8 1 0 "Grapefruit peel", "Translated from oranges"
449 "No Code","P", 0.000002 0.5 1 0 "Turkey-other organ meats", "Dietary Burden Calculation"
451 "No Code","5A", 0.00122 1 1 0 "Broccoli-chinese", "PDP 94 from broccoli"
452 "No Code","5B", 0.0015 1 1 0 "Bok choy", "FDA data"
480 "06016GA","O", 0.00039 1 1 0 "Plantains-green", ""
481 "06016DA","O", 0.00039 3.9 1 0 "Plantains-dried", ""
482 "No Code","O", 0.00032 1 1 0 "Soybeans-protein isolate", "Knizner Memo."
484 "No Code","O", 0.0043 1 1 0 "Radishes-oriental", "FDA"
940 "No Code","O", 0.001 1 1 0 "Peanuts-hulled", "FDA and 10 % CT"

Attachment 3. Quantitative Usage Analysis for Chlorpyrifos

Case Number: 0100 PC Code: 59101
Date: 3/17/00 Analyst: Tim Kiely

Based on available pesticide survey usage information for the years of 1987 through 1998, an annual estimate of chlorpyrifos' total domestic usage is approximately 20,960,000 pounds active ingredient (a.i.) for 8,027,000 acres treated. Most of the acreage is treated with 2.3 pounds a.i. or less per application and 3.9 pounds a.i. or less per year. Chlorpyrifos is an insecticide with its largest agricultural market in terms of total pounds a.i. allocated to corn (26%). No other crop is treated with more than 3% of the total pounds of chlorpyrifos applied. The largest non-agricultural markets in terms of total pounds of a.i. applied are PCOs, termite control (24%) and turf (12%). Crops with a high percentage of their total U.S. planted acres treated include brussels sprouts (73%), cranberries (46%), apples (44%), broccoli (41%), and cauliflower (31%).

This quantitative usage analysis updates estimates provided in an earlier BEAD usage profile (Grube, 12/96).

U.S. EPA, Quantitative Usage Analysis, Chlorpyrifos, November 24, 1998 (last revised February, 14 2000).

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Cranberries	35	16	21	46%	60%	26	34	1.63	1.0	1.63	MA NJ WI 94%
Strawberries	50	3	6	6%	12%	8	15	2.53	1.1	2.27	CA NC OR MD MI NY 79%
Citrus, Other /1	51	8	16	16%	32%	12	25	1.48	1.2	1.19	FL CA 81%
Grapefruit	194	23	32	12%	16%	44	65	1.91	1.4	1.35	FL TX 82%
Lemons	63	19	27	30%	43%	55	72	2.89	1.3	2.23	CA AZ 99%
Oranges	867	118	165	14%	19%	460	578	3.90	1.3	2.90	CA FL 96%
Oranges, Fresh	171	70	92	41%	54%	350	442	5.00	1.4	3.57	
Oranges, Processed	696	48	73	7%	10%	110	136	2.29	1.7	1.35	
Apples	572	251	305	44%	53%	550	750	2.19	1.6	1.41	WA MI NY CA VT NC 77%
Figs	16	0*	0*	0%	0%	0*	0*	-	-	-	
Pears	78	10	18	13%	23%	19	37	1.77	1.1	1.68	WA OR CA MI 83%

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Nectarines	38	3	4	8%	11%	5	7	1.69	1.0	1.69	
Cherries	128	18	25	14%	19%	34	60	1.85	1.2	1.59	MI OR WA 86%
Peaches	212	23	37	11%	17%	41	52	1.78	1.4	1.25	CA SC GA NJ TX OK 62%
Plums & Prunes	140	7	9	5%	6%	11	20	1.57	1.1	1.47	CA WA OR 82%
Grapes	825	4	6	0%	1%	4	8	0.99	1.1	0.93	AR OH WA MI NC FL 68%
Almonds	429	88	124	20%	29%	185	270	2.10	1.2	1.82	CA 100%
Pecans	488	143	174	29%	36%	240	414	1.68	1.9	0.88	TX GA LA OK 85%
Walnuts	205	62	80	30%	39%	197	230	3.18	1.5	2.09	CA 100%
Nut Trees, Other /2	100	6	9	6%	9%	7	18	1.17	1.2	0.96	
Onions	152	20	29	13%	19%	24	35	1.20	1.0	1.20	OR NY MI NM GA CA 86%

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Peppers, Bell	65	1	2	2%	3%	4	8	4.00	3.2	1.25	FL 100%
Kale	6	0	0	0%	0%	0	0	1.00	1.0	1.00	
Mustard	-	-	-	-	-	-	-	-	-	-	
Broccoli	111	45	57	41%	51%	73	87	1.62	1.4	1.19	CA 82%
Brussels Sprouts	3	2	3	73%	91%	9	13	3.75	3.5	1.07	CA 100%
Cabbage	85	11	20	13%	23%	10	22	0.91	1.0	0.91	CA FL GA TX WA NY 77%
Cabbage, Chinese	9	0	0	0%	0%	0	0	1.00	1.0	1.00	
Cauliflower	58	18	21	31%	36%	27	38	1.50	1.7	0.87	CA AZ 82%
Collards	11	1	2	12%	13%	1	1	0.42	1.0	0.42	FL AZ NJ 84%
Kohlrabi	-	-	-	-	-	-	-	-	-	-	
Broccoli raab	-	-	-	-	-	-	-	-	-	-	
Cucurbits /3	285	1	3	0%	1%	1	6	1.00	1.4	0.70	NC MI FL CA AZ IA 82%

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Asparagus	89	6	11	7%	12%	5	9	0.83	1.0	0.83	WA MI 82%
Roots/Tubers /4	244	33	46	14%	19%	74	86	2.24	1.1	1.96	NC CA MS LA 83%
Sweet Corn	784	86	105	11%	13%	120	192	1.40	1.4	1.03	FL WA WI MN OR NY 69%
Sweet Corn, Fresh	254	46	57	18%	22%	74	120	1.59	2.1	0.76	
Sweet Corn, Processed	530	40	48	7%	9%	46	72	1.17	1.0	1.17	
Tomatoes	500	11	16	2%	3%	35	53	3.18	3.1	1.01	FL 90%
Lentils	131	-	-	-	-	-	-	-	-	-	
Beans/Peas, Green	723	2	4	0%	1%	2	4	1.00	1.0	0.99	OR MD IL WI 87%
Beans/Peas, Dry	2,181	4	6	0%	0%	4	7	1.00	1.0	0.97	MI ND MN CO IL 83%
Sorghum	11,280	210	349	2%	3%	148	239	0.70	1.1	0.62	TX MS KS OK NE LA 76%

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Corn	71,264	4,678	6,053	7%	8%	5,527	6,949	1.18	1.1	1.10	IL IA NE IN WI OH 71%
Rice	2,921	1	7	0%	0%	3	14	3.34	1.0	3.34	LA AR 81%
Tobacco	695	73	96	11%	14%	146	197	2.00	1.0	1.96	NC SC VA GA 81%
Wheat, Spring	20,799	29	100	0%	0%	35	90	0.39	1.0	0.39	ND MN 92%
Wheat, Winter	43,282	250	400	1%	1%	170	350	0.54	1.2	0.47	TX CO KS WY MT NM 84%
Alfalfa	23,949	675	835	3%	3%	480	700	0.71	1.1	0.67	CA PA MO IL KS CO 55%
Peanuts	1,610	158	240	10%	15%	316	480	2.00	1.1	1.81	GA NC VA AL 85%
Soybeans	61,279	90	150	0%	0%	60	91	0.67	1.0	0.67	IL IA OH SD IN NE 53%

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate			States of Most Usage
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/appl	(% of total lb ai used on this site)
Sunflower	2,745	7	13	0%	0%	5	8	0.71	1.1	0.65	MN CO CA KS 81%
Cotton	12,429	645	806	5%	6%	670	890	1.04	1.7	0.63	AZ MS CA TX LA 84%
Sugar Beets	1,415	118	146	8%	10%	160	307	1.36	1.5	0.88	CA ND MN 86%
Sugarcane	852	0	0	0%	0%	0	0	0.50	1.0	0.50	
Mint	154	29	42	19%	27%	41	66	1.41	1.0	1.41	OR ID IN WA 92%
Bananas	See Below	-	-	-	-	-	-	-	-	-	
Lots/Farmsteads/etc	24,815	7	14	0%	0%	10	16	1.43	2.2	0.66	FL OK GA KS MS IA 60%
Pasture	86,960	7	12	0%	0%	9	19	1.20	1.6	0.73	TX FL CA 83%
Woodland	62,825	5	9	0%	0%	8	17	1.52	1.6	0.95	GA PA TX FL MI 83%

Site	Acres Grown (000)	Acres Treated (000)		% of Crop Treated		LB AI Applied (000)		Average Application Rate		
		Wtd Avg	Est Max	Wtd Avg	Est Max	Wtd Avg	Est Max	lb ai/ acre/ yr	#appl / yr	lb ai/ A/app
Nursery/Greenhouse	-	-	-	-	-	277	567	-	-	
PCOs, Termite Control /5	-	-	-	-	-	5,003	6,000	-	-	
PCOs, other /6	-	-	-	-	-	1,946	3,000	-	-	
MADs /7	-	-	-	-	-	29	50	-	-	
Turf /8	-	-	-	-	-	2,519	3,000	-	-	
Households, Outdoor	-	-	-	-	-	1,112	1,500	-	-	
Total, U.S.		8,027	9,341			20,960	24,363			
	Millions of Tons									
	Imported	Treated		% Treated						
		Avg	Max	Avg	Max					
Bananas /9	3	0.4	0.5	13%	14%					

COLUMN HEADINGS

Wtd Avg = Weighted average--the most recent years and more reliable data are weighted more heavily.
Est Max = Estimated maximum, which is estimated from available data.
Average application rates are calculated from the weighted averages.

NOTES ON TABLE DATA

Usage data primarily covers 1987 - 1998. Calculations of the above numbers may not appear to agree because they are displayed as rounded to the nearest 1000 for acres treated or lb. a.i. (Therefore 0 = < 500)
to the nearest whole percentage point for % of crop treated. (Therefore 0% = < 0.5%)

0* = Available EPA sources indicate that no usage is observed in the reported data for this site,
which implies that there is little or no usage.
A dash (-) indicates that information on this site is NOT available in EPA sources or is insufficient.
/1 Citrus, Other includes kumquats, limes, tangelos, and tangerines.
/2 Nut Trees, Other includes chestnuts, filberts (hazelnuts), and macadamia nuts.
/3 Cucurbits includes cucumber, and pumpkin.
/4 Root and Tuber Crops include carrots, radish, rutabagas, sweet potatoes, and turnips.
/5 PCOs, Termite Control: pest control operators, termite control.
/6 PCOs, Other includes use for control of cockroaches, ants, fleas, and other general pests.
/7 MADs: mosquito abatement districts.
/8 Turf includes golf courses, turf farms, institutional turf, lawn care control operators, and landscape contractors.
/9 The estimates for bananas are based on import data. The two countries indicating a use of chlorpyrifos are Columbia and Honduras.

SOURCES:
EPA proprietary data (Doane Marketing Research, Kline Professional Markets for Pesticides and Fertilizers, Maritz Marketing Research, Mike Buckley and Associates),
National Center for Food and Agricultural Policy,
USDA, NASS, ERS, Agriculture Chemical Usage: Vegetable Summary (1996, 1994),
USDA, NASS, ERS, Agriculture Chemical Usage: Fruits Summary (1997, 1995),
USDA, NASS, ERS, Agriculture Chemical Usage: Field Crops Summary (1997, 1996).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICII

TOXIC SUBSTANCES

Appendix 1.

June 22, 2000

MEMORANDUM

SUBJECT: **Chlorpyrifos** (List A, Case No. 0100). Appendix 1. Chronic Dietary Exposure Assessment for Chlorpyrifos RED with Updated Values for Anticipated Residues, After Proposed Mitigation Actions are Taken. Chemical No: 059101; Rereg. Case No. 0100

FROM: David Soderberg, Chemist
Reregistration Branch 3
Health Effects Division (7509C)

THROUGH: Steven Knizner, Branch Senior Scientist
Reregistration Branch 3
Health Effects Division (7509C)

TO: Deborah Smegal, Risk Assessor
Reregistration Branch 3
Health Effects Division (7509C)

Background/Action Requested

Chronic dietary exposure estimates for chlorpyrifos were reported previously (D. Soderberg, Oct 14, 1999, "Revised Chronic Non-cancer Dietary Exposure Assessment for Chlorpyrifos," DP Barcode D260165). Please revise and update the chronic dietary exposure estimate for chlorpyrifos to address the mitigation actions that have been proposed for dietary exposure to chlorpyrifos. Three actions to mitigate dietary exposure have been proposed. The first is restricting apples to be treated only pre-bloom, with a tolerance of 0.01 ppm. The second is to restrict treatments for grapes to only soil treatments, with a tolerance of 0.01 ppm. This is expected to allow retention of all domestic uses of chlorpyrifos on grapes. The third proposed mitigation is to remove all uses of chlorpyrifos on tomatoes.

Executive Summary

This document revises the results of the parent memorandum allowing for mitigation actions on apples, grapes and tomatoes to reduce dietary exposure to chlorpyrifos.

Three separate mitigated dietary exposure analyses have been conducted. The first analysis included all commodities with established tolerances, and used the PDP pear monitoring data for fresh apples. The second analysis took into consideration the Food Handling Establishment (FHE) use of chlorpyrifos. The third analysis demonstrated the effect of including some commodities on which violative residues have been found. Chlorpyrifos is not registered for use on spinach, carrots, or squash, yet the PDP and FDA monitoring programs have found chlorpyrifos residues on these commodities for one or more years of sampling. Chronic dietary risk estimates did not appreciably increase with inclusion of these violative samples.

For the US population, and all population subgroups, the refined chronic dietary exposure estimates were less than 100% of the cPAD, even when including the maximum expected residues from food handling establishment use of chlorpyrifos. For exposure estimates including the FHE use, the percent of the cPAD that was occupied ranged from 2.1% for males 20+ years old, to 51% for children 1-6 years old. Children 1-6 were the population subgroup with the highest exposure in all scenarios. Exposure estimates without the FHE uses were lower, with children 1-6 years old having 31% of the cPAD occupied.

A brief summary of results is tabulated below, in Tables 1, 2, 3, and 4.

Table 1. Chronic Dietary Exposure and Risk Estimates for Selected Populations after Dietary Mitigation Actions, not considering FHE use.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	0.000004	1.4 %
All Infants	0.000003	11.3 %
Children 1-6	0.000009	31 %
Children 7-12	0.000006	21.1%
Female 13-50	0.000003	10.6 %
Males 13-19	0.000004	1.2%
Males 20+	0.000003	1.0%
Seniors	0.000004	1.2%

Note: All subpopulations are included in the actual DEEM Reports attached to this document. Only larger, well defined populations are listed here. The reliability of results for other sub-populations not tabulated above may be difficult to assure because the number of participants from these subpopulations in the Consumption Survey is small and sometimes not well defined.

Table 2. Chronic Dietary Exposure and Risk Estimate After Dietary Mitigation Actions and Considering FHE use.

Population	Exposure Estimate, FHE included	
	exposure (mg/kg/d)	percent of cPAD
U.S. Population	0.000008	2.5 %
All Infants	0.000010	33 %
Children 1-6	0.000015	51 %
Children 7-12	0.000011	36 %
Female 13-50	0.000006	20 %
Males 13-19	0.000007	2.2%
Males 20+	0.000006	2.1%
Seniors	0.000007	2.3%

Table 3. Chronic Dietary Exposure and Risk Estimates for Selected Populations after Dietary Mitigation Actions, not considering FHE use, but Including Violative Residues on Carrots, Squash, and Spinach.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	0.000004	1.4 %
All Infants	0.000004	14 %
Children 1-6	0.000009	31 %
Children 7-12	0.000006	21 %
Female 13-50	0.000003	11 %
Males 13-19	0.000004	1.2%
Males 20+	0.000003	1.1%
Seniors	0.000004	1.2%

Detailed Considerations

Toxicological Information

All toxicological considerations are identical to those in the parent memorandum, and will not be further discussed here.

Residue Information

All residue information is identical to that used in the parent assessment, except for the information used for the three mitigated crops. Therefore, only these three latter crops will be discussed here. Refer to the previous memorandum for all other crops.

Apples:

Mitigation of residues on apples has been proposed by allowing only a pre-bloom treatment and reducing the tolerance to 0.01 ppm. We attempted to model the residues expected on apples after this mitigation step is taken by applying current pear data to apples, and truncating all results at 0.01 ppm. Pears are currently only allowed this pre-bloom treatment. We also incorporated the pear percent crop treated, in place of the current apple percent crop treated on the grounds that, given apples were restricted to the pear treatment regime, usage on pears would also be likely to better approximate future use on apples than would current usage on apples.

The PDP analyzed 708 composite pear samples for the year 1997 with 13 (2%) detects, having an average of 0.017923 ppm, a sum of 0.233 ppm, and the peak residue at 0.054 ppm. The estimated average percent crop treated from BEAD's 9/27/99 memo is 13%. From this it was assumed that 79 of the samples were at 1/2LOD of 0.003. Nine of the thirteen detects were at 0.01 ppm, or were above 0.01 ppm and were set to the 0.01 ppm tolerance. The other four detects were at 0.005 ppm. The chronic AR calculated for fresh apples, based upon this pear data, truncated at 0.01 ppm, is 0.000049 ppm. This value is also used for dried apples.

Peeling Factor for Apples (Pome Fruits): As noted in the Residue Chemistry Chapter (1/25/84) of the Chlorpyrifos Registration Standard, data submitted in conjunction with PP#6F1777, 9F2221, and 1F2620 demonstrated that the majority of chlorpyrifos residues in apples were found on the apple peel. In summary, four freshly harvested samples containing 2.2 ppm to 4.6 ppm chlorpyrifos (average 3.4 ppm) were peeled. Peeled apples contained from 0.22 to 0.55 ppm chlorpyrifos. Removed peels contained 13 to 20 ppm chlorpyrifos. Based on the average level of chlorpyrifos in whole apples and the upper-end residue found on peeled apples, it was determined that a reduction factor of 0.15x for peeling could be applied to whole apples when they were peeled. This factor could also be translated to pears. This peeling reduction factor has also been supported by results of a study described by a commentor from Michigan State University (El-Hadidi, M.F., 1993, *Studies on Pesticide Residues in Fresh and Processed Apple Fruits Under Ceratin Developed Pest Control Programs*, PhD Dissertation, Dept. of Economic Entomology, Faculty of Agriculture, Cairo University, Egypt). This factor was applied to all cooked forms of fresh apples except for apples, boiled. Novigen has indicated that all apple sauce was translated to DEEM™ as apples, boiled (see below). The peeling factor was also translated to pears, kiwi and sweet potatoes.

Apple Sauce: Residues in the canned food forms of apples were based upon the apple sauce data supplied by the registrant, which was a market basket survey on 200 samples of apple sauce with a ½ LOD of 0.001 ppm. Four samples of these were positive for chlorpyrifos residues at 0.004 ppm. If the treatment of apples were restricted to the pre-bloom regime, it was assumed that, at a minimum, these four positive residues would no longer occur, so they were dropped from the data. In addition, it was assumed that the current 13% crop treated for pears would be a better approximation of the percent apple crop that would be treated after mitigation than is the current apple percent crop treated. Based upon the estimated 13% crop treated, 26 of the non detects were assumed to be at ½ LOD, and the remainder at zero. An anticipated residue was calculated as 13 X 0.001 ppm divided by 200 = 0.00013 ppm. Novigen has indicated that all apple sauce was translated to the food form "apples, boiled" in the DEEM™ program and junior

apple sauce was translated to "apples, canned, not further specified." Therefore this AR was used for apples, boiled and apples, canned, not further specified. Because apple sauce is processed in a relatively similar manner to other canned apples, this AR was also used for all other canned apples. This value was used regardless of whether the exposure assessment used PDP or NFS data for fresh apples.

Apples, Dried: The fresh apple AR was used for this food group, combined with a processing factor of 1.2. Thus, dried apples were given the fresh apple AR of 0.00049 ppm if the PDP apple data was used, or 0.0042 ppm if the registrant's market basket data was used. A processing factor of 1.2 was derived from the DEEM default factor of 8 times a peeling factor of 0.15. Note that there is also a separate dried apples food form under the fresh apples food group. The primary difference between this lone food form and food group of dried apples is that the lone dried apples food form is blended, while the food forms in the dried apple food group are all partially blended. This distinction is not important for chronic assessment and all of the dried apples food forms were given the same anticipated residue value and processing factor.

Apple Juice/Concentrate: Residues in apple juice were based upon the registrants market basket survey of apple juice. There were a total of 198 samples of apple juice analyzed in the NFS survey. Residues were detected in 2 samples at 0.015 ppm. The average ½ LOD reported was 0.0004 ppm. At a minimum, assuming mitigation that allowed only the pre-bloom treatment, it was assumed that the two positive findings would no longer be expected to occur, so these were removed from the data set. In addition, the 13 percent crop treated value for pears replaced the percent crop treated for apples. Based upon this, an anticipated residue was calculated as the ½ LOD of 0.0004 ppm times 13% crop treated = 0.000052 ppm.

A processing factor of 3 was applied to apple juice concentrate. This is the ratio of the two default DEEM factors for apple juice and apple juice concentrate 1.3/3.9. Since analyses were measured directly in apple juice, it would not have been appropriate to keep the factor of 1.3 for apple juice, which is intended to convert from residues measured on whole fresh apples.

Grapes, Fresh: The USDA Pesticide Data Program (PDP) monitored 1884 grape samples during the years 1994 to 1997 with 162 detects (8%). Of these, 968 were samples from domestically grown grapes, where only a soil treatment is used. The remainder were imported grapes and had residues up to 0.44, apparently after foliar uses. To assess the contribution of grapes to total dietary exposure to chlorpyrifos after mitigation, only the residue results in the domestic grapes were used. There were 39 detects in 968 total, which were truncated at the proposed tolerance of 0.01 ppm. Specifically, the truncation procedure meant that all domestic grapes that tested for residues above 0.01 ppm were adjusted to 0.01 ppm. This process was expected to create a reasonable model of expected residues after the mitigation actions, i.e., with only the soil treatments allowed. There were 39 grape samples with detected residues that, after truncation to 0.01 ppm summed to 0.242 ppm and averaged 0.00621 ppm. The average percent crop treated from BEAD is 2%, and this implies fewer grapes treated than were actually found with residues, so none of the grapes were assumed to be at ½ LOD. Therefore the anticipated residue on grapes after mitigation was calculated at 0.00025 ppm.

Grape Juice: The anticipated residue of 0.00025 ppm calculated above for fresh grapes was used for grape juice with an added processing factor of 0.3 (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95).

Other Processed Grape Products: For grape **leaves** the grape AR with the DEEM default processing factor of 1.5 was used. For grape **raisins** the grape AR was used with the processing factor of 0.17 (Knizner, S. Chlorpyrifos Anticipated Residues for DRES Acute Analysis, DP Barcode: D216468, 10/95).

For grape **wine** the grape AR of 0.00272 was used, but was modified with a processing factor of 0.02. As recommended by a commentor, this was taken from an open literature vinification study [C. Sala et al, *J. Agric. Food Chem 44*, 3668-3671, 1996)]. This study reported initial chlorpyrifos values of 93 ppm ppm in white wine and 1866 ppm in red wine just after pressing. The residues in the fresh, raw grapes were not reported. In both cases, further processing into wine yielded results below the limit of detection of the method used. Unfortunately, this lower limit of detection was not reported in the study, so it was necessary to assume that the non detects were at 2 ppm, that is, at ½ of the lowest of any reported residue of chlorpyrifos (of 4 ppm). This yielded processing factors of 0.2 for white wine and 0.001 for red wine. Because red and white wines are not separate in DEEM^{TM}, it was also necessary to apply the more conservative processing factor of 0.02 for white wine to the entire grape wine food category.

Tomatoes: As part of the proposed actions to mitigate dietary exposure to chlorpyrifos, all uses of chlorpyrifos on tomatoes are to be cancelled and the tomato tolerance revoked. Therefore, in this proposed mitigation assessment, all residues in tomatoes were set at zero.

Results/Discussion

For the US population, and all population subgroups, the refined chronic dietary exposure estimates were less than 100% of the cPAD, even when including the maximum expected residues from food handling establishment use of chlorpyrifos. For exposure estimates including the FHE use, the percent of the cPAD that was occupied ranged from 2.1 % for males 20+, to 51 % for children 1-6 years old. Children 1-6 were the population subgroup with the highest exposure in all scenarios. Exposure estimates without the FHE uses were lower, with children 1-6 years old having 31% of the cPAD occupied.

Inclusion of illegal residues on carrots, squash and spinach did not noticeably increase exposure.

The complete results are tabulated below.

Table 6. Chronic Dietary Exposure and Risk Estimates for Selected Populations after mitigation, not considering FHE use.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	.000004	1.4 %
All Infants	.000003	11.3 %
Nursing Infants	.000002	5.6 %
Non-nursing Infants < 1 year	.000004	13.7 %
Children 1-6	.000009	31.0 %
Children 7-12	.000006	21.1 %
Females 13-19, not pregnant, not nursing	.000003	9.8 %
Females 20+, not pregnant or nursing	.000003	11.1 %
Female 13-50	.000003	10.6 %
Females 13+, pregnant, not nursing	.000003	10.8 %
Females 13+, nursing	.000006	18.4 %
Males 13-19	.000004	1.2%
Males 20+	.000003	1.0%
Seniors	.000004	1.2%

Note: All subpopulations are included in the actual DEEM Reports attached to this document. Only larger, well defined populations are listed here. The reliability of results for other sub-populations not tabulated above may be difficult to assure because the number of participants from these subpopulations in the Consumption Survey is small and sometimes not well defined.

Table 7. Chronic Dietary Exposure and Risk Estimate, after Mitigation, and Considering FHE use.

Population	Exposure Estimate, FHE included	
	exposure (mg/kg/d)	percent of cPAD
U.S. Population	.000008	2.5 %
All Infants	.000010	33.4 %
Nursing Infants	.000004	14.0 %
Non-nursing Infants < 1 year	.000012	41.6 %
Children 1-6	.000015	51.0 %
Children 7-12	.000011	36.1 %
Females 13-19, not pregnant, nor nursing	.000006	18.8 %
Females 20+, not pregnant, not nursing	.000006	20.8 %
Female 13-50	.000006	19.9 %
Females 13+, pregnant, not nursing	.000006	19.2 %
Females 13+, nursing	.000009	31.6 %
Males 13-19	.000007	2.2 %
Males 20+	.000006	2.1 %
Seniors	.000007	2.3 %

Table 8. Chronic Dietary Exposure and Risk Estimates for Selected Populations, after Mitigation, not considering FHE use but including violative residues on carrots, squash, and spinach.

Population	Exposure Estimate, FHE use not considered	
	Exposure (mg/kg/d)	Percent of cPAD
U.S. Population	.000004	1.4 %
All Infants	.000004	14.4 %
Nursing Infants	.000002	7.1 %
Non-nursing Infants < 1 year	.000005	17.5 %
Children 1-6	.000009	31.3 %
Children 7-12	.000006	21.2 %
Females 13-19, not pregnant, not nursing	.000003	9.9 %
Females 20+, not pregnant, not nursing	.000003	11.2 %
Female 13-50	.000003	10.7 %
Females 13+, pregnant, not nursing	.000003	10.9 %
females 13+, Nursing	.000006	18.5 %
Males 13-19	.000004	1.2 %
Males 20+	.000003	1.1 %
Seniors	.000004	1.2 %

List of Attachments:

Attachment 1: Chronic Residue Information
- 1.a. Assessment without food handling establishments
- 1.b. Assessment with food handling establishments included
- 1.c. Assessment with violative residues on carrots, spinach and squash included.

Attachment 2: Chronic DEEM Analysis
- 2.a. Assessment without food handling establishments
- 2.b. Assessment with food handling establishments included
- 2.c. Assessment with violative residues on carrots, spinach and squash included.

cc:RRB3RF;D. Soderberg;S. Knizner
7509c:DSoderberg:CM-2:Room821D:308-4137:Chlorpyrifos

Attachment 1.a. Results of Chronic Analysis Using PDP Apple Data for Fresh Apples.

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrmitpdpjun5.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:22:30 Residue file dated: 06-15-2000/12:49:02/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is the chronic dietary exposure analysis, after mitigation actions have been taken.

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Total Exposure Percent of Rfd
U.S. Population (total)	0.000004	13.7%
U.S. Population (spring season)	0.000004	12.6%
U.S. Population (summer season)	0.000004	13.5%
U.S. Population (autumn season)	0.000004	14.4%
U.S. Population (winter season)	0.000004	14.2%
Northeast region	0.000004	13.7%
Midwest region	0.000004	13.3%
Southern region	0.000004	13.0%
Western region	0.000005	15.3%
Hispanics	0.000004	12.5%
Non-hispanic whites	0.000004	14.1%
Non-hispanic blacks	0.000003	11.5%
Non-hisp/non-white/non-black	0.000005	16.7%
All infants (< 1 year)	0.000003	11.3%
Nursing infants	0.000002	5.6%
Non-nursing infants	0.000004	13.7%
Children 1-6 yrs	0.000009	31.0%
Children 7-12 yrs	0.000006	21.1%
Females 13-19 (not preg or nursing)	0.000003	9.8%

Females 20+ (not preg or nursing)	0.000003	11.1%
Females 13-50 yrs	0.000003	10.6%
Females 13+ (preg/not nursing)	0.000003	10.8%
Females 13+ (nursing)	0.000006	18.4%
Males 13-19 yrs	0.000004	11.8%
Males 20+ yrs	0.000003	10.4%
Seniors 55+	0.000004	12.0%
Pacific Region	0.000005	15.4%

Attachment 1.b. Results, after Mitigation, and Including FHE Uses

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrmitpdpjun5FHE.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:43:03 Residue file dated: 06-15-2000/12:49:54/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is the chronic dietary exposure analysis, after mitigation actions, with FHE uses included.

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Total Exposure Percent of Rfd
U.S. Population (total)	0.000008	25.3%
U.S. Population (spring season)	0.000007	24.4%
U.S. Population (summer season)	0.000008	25.3%
U.S. Population (autumn season)	0.000008	25.7%
U.S. Population (winter season)	0.000008	25.6%
Northeast region	0.000008	26.1%
Midwest region	0.000007	24.8%
Southern region	0.000007	23.8%
Western region	0.000008	27.5%
Hispanics	0.000007	23.9%
Non-hispanic whites	0.000008	25.5%
Non-hispanic blacks	0.000007	23.3%
Non-hisp/non-white/non-black	0.000009	31.2%
All infants (< 1 year)	0.000010	33.4%
Nursing infants	0.000004	14.0%
Non-nursing infants	0.000012	41.6%
Children 1-6 yrs	0.000015	51.0%
Children 7-12 yrs	0.000011	36.1%
Females 13-19 (not preg or nursing)	0.000006	18.8%

Females 20+ (not preg or nursing)	0.000006	20.8%
Females 13-50 yrs	0.000006	19.9%
Females 13+ (preg/not nursing)	0.000006	19.2%
Females 13+ (nursing)	0.000009	31.6%
Males 13-19 yrs	0.000007	22.0%
Males 20+ yrs	0.000006	20.8%
Seniors 55+	0.000007	22.5%
Pacific Region	0.000008	27.8%

Attachment 1.c. Results, after Mitigation, Without FHE Uses, Including Violative Residues on Carrots, Spinach and Squash

U.S. Environmental Protection Agency Ver. 7.075
DEEM Chronic analysis for CHLORPYRIFOS (1989-92 data)
Residue file name: D:\Chrmitpdpvioljun5.RS7 Adjustment factor #2 NOT used.
Analysis Date 06-15-2000/13:44:36 Residue file dated: 06-15-2000/12:50:58/8
Reference dose (RfD, Chronic) = .00003 mg/kg bw/day
COMMENT 1: This is the chronic dietary exposure analysis, after mitigation actions, with violative residues on carrots, squash and spinach included..

Total exposure by population subgroup

Population Subgroup	Total Exposure mg/kg body wt/day	Total Exposure Percent of Rfd
U.S. Population (total)	0.000004	13.9%
U.S. Population (spring season)	0.000004	12.7%
U.S. Population (summer season)	0.000004	13.7%
U.S. Population (autumn season)	0.000004	14.7%
U.S. Population (winter season)	0.000004	14.4%
Northeast region	0.000004	13.8%
Midwest region	0.000004	13.5%
Southern region	0.000004	13.2%
Western region	0.000005	15.6%
Hispanics	0.000004	12.6%
Non-hispanic whites	0.000004	14.3%
Non-hispanic blacks	0.000003	11.7%
Non-hisp/non-white/non-black	0.000005	16.8%
All infants (< 1 year)	0.000004	14.4%
Nursing infants	0.000002	7.1%
Non-nursing infants	0.000005	17.5%
Children 1-6 yrs	0.000009	31.3%
Children 7-12 yrs	0.000006	21.2%

Females 13-19 (not preg or nursing)	0.000003	9.9%
Females 20+ (not preg or nursing)	0.000003	11.2%
Females 13-50 yrs	0.000003	10.7%
Females 13+ (preg/not nursing)	0.000003	10.9%
Females 13+ (nursing)	0.000006	18.5%
Males 13-19 yrs	0.000004	11.9%
Males 20+ yrs	0.000003	10.5%
Seniors 55+	0.000004	12.1%
Pacific Region	0.000005	15.7%

Attachment 2.a. DEEM Files for the Chronic Analysis Using PDP Apple Data for Fresh Apples.

```
"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:49:02
-1  "This is for chronic dietary exposure analysis."
 999  0
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute
data"
 13 "01014AA","O", 0.00025  1  1  4 "Grapes", "PDP 1994-1997"
     11 Uncooked, 0.00025  1  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  1  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  1  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00025  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
     11 Uncooked, 0.00025  0.17  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  0.17  1 "PDP 1994-1997"
     13 Baked, 0.00025  0.17  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.17  1 "PDP 1994-1997"
     18 Dried, 0.00025  0.17  1 "PDP 1994-1997"
     42 Frozen: Cooked, 0.00025  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00025  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
     11 Uncooked, 0.00025  0.3  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  0.3  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.3  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  0.3  1 "PDP 1994-1997"
     34 Canned: Boiled, 0.00025  0.3  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  0.3  1 "PDP 1994-1997"
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from
oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from
oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
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 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market
basket"
 34 "02006AB","10", 0.0012  1  1  3 "Oranges-peeled fruit", "PDP"
     11 Uncooked, 0.0012  1  1 "PDP"
     12 Cooked: NFS, 0.0012  1  1 "PDP"
     31 Canned: NFS, 0.0005  1  1 "PDP"
 35 "02006HA","10", 0.0012  15  1  4 "Oranges-peel", "PDP"
     11 Uncooked, 0.0012  15  1 "PDP"
     12 Cooked: NFS, 0.0012  15  1 "PDP"
     31 Canned: NFS, 0.0005  15  1 "PDP"
     41 Frozen: NFS, 0.0005  15  1 "PDP"
 36 "02006JA","10", 0.00012  1  1  0 "Oranges-juice", "market basket"
 37 "02007AA","10", 0.00073  1  1  0 "Tangelos", "PDP from Oranges"
 38 "02008AA","10", 0.00073  1  1  0 "Tangerines", "PDP from Oranges"
 39 "02008JA","10", 0.00022  1  1  0 "Tangerines-juice", "market basket"
 40 "03001AA","14", 0.01  1  1  0 "Almonds", "Field trials from Walnuts and
Almonds"
 44 "03005AA","14", 0.003  1  1  0 "Filberts (hazelnuts)", "Field trials from
Walnuts and Almonds"
 46 "03007AA","14", 0.003  1  1  0 "Macadamia nuts (bush nuts)", "Field trials
from Walnuts and Almonds"
 47 "03008AA","14", 0.014  1  1  0 "Pecans", "Field trials from Walnuts and
Almonds"
 48 "03009AA","14", 0.015  1  1  0 "Walnuts", "Field trials from Walnuts and
Almonds"
 52 "04001AA","11", 0.00049  1  1  11 "Apples", "PDP"
     11 Uncooked, 0.00049  1  1 "PDP"
     12 Cooked: NFS, 0.00049  0.15  1 "PDP"
     13 Baked, 0.00049  0.15  1 "PDP"
     14 Boiled, 0.00013  1  1 "market basket"
     15 Fried, 0.00049  0.15  1 "PDP"
     18 Dried, 0.00049  1.2  1 "PDP"
     31 Canned: NFS, 0.00013  1  1 "market basket"
     32 Canned: Cooked, 0.00013  1  1 "market basket"
     33 Canned: Baked, 0.00013  1  1 "market basket"
     34 Canned: Boiled, 0.00013  1  1 "market basket"
     42 Frozen: Cooked, 0.00013  1  1 "market basket"
 53 "04001DA","11", 0.00049  1.2  1  4 "Apples-dried", "PDP 94-96 with 44% crop
treated"
     13 Baked, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
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    14 Boiled, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
    18 Dried, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
    42 Frozen: Cooked, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
 54 "04001JA","11", 0.000052  1  1  5 "Apples-juice/cider", "PDP 94-96 with 44%
crop treated"
    11 Uncooked, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    12 Cooked: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    14 Boiled, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    31 Canned: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    41 Frozen: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
 56 "04003AA","11", 0.00066  1  1  5 "Pears", "1997 PDP"
    11 Uncooked, 0.00066  1  1 "1997 PDP"
    12 Cooked: NFS, 0.00066  0.15  1 "1997 PDP"
    13 Baked, 0.00066  0.15  1 "1997 PDP"
    14 Boiled, 0.00066  0.15  1 "1997 PDP"
    31 Canned: NFS, 0.00066  0.15  1 "1997 PDP"
 57 "04003DA","11", 0.00066  0.94  1  3 "Pears-dried", "1997 PDP"
    13 Baked, 0.00066  0.94  1 "1997 PDP"
    14 Boiled, 0.00066  0.94  1 "1997 PDP"
    18 Dried, 0.00066  0.94  1 "1997 PDP"
 61 "05002AA","12", 0.0012  1  1  0 "Cherries", "FDA"
 62 "05002DA","12", 0.0012  4  1  0 "Cherries-dried", "FDA"
 63 "05002JA","12", 0.0012  0.3  1  4 "Cherries-juice", "FDA"
    13 Baked, 0.0012  0.3  1 "FDA"
    14 Boiled, 0.0012  0.3  1 "FDA"
    31 Canned: NFS, 0.0012  0.3  1 "FDA"
    41 Frozen: NFS, 0.0012  0.3  1 "FDA"
 64 "05003AA","12", 0.00073  1  1  1 "Nectarines", "PDP Peaches"
    11 Uncooked, 0.00073  1  1 "PDP Peaches"
 65 "05004AA","12", 0.0011  1  1  6 "Peaches", "PDP"
    11 Uncooked, 0.0011  1  1 "PDP"
    12 Cooked: NFS, 0.0011  1  1 "PDP"
    13 Baked, 0.0011  1  1 "PDP"
    14 Boiled, 0.0011  1  1 "PDP"
    31 Canned: NFS, 0.000275  1  1 "PDP 1997 canned"
    41 Frozen: NFS, 0.000275  1  1 "PDP 1997 canned"
 66 "05004DA","12", 0.0011  7  1  0 "Peaches-dried", "PDP"
 67 "05005AA","12", 0.00046  1  1  5 "Plums (damsons)", "PDP from peaches"
    11 Uncooked, 0.00046  1  1 "PDP from peaches"
    12 Cooked: NFS, 0.00046  1  1 "PDP from peaches"
    31 Canned: NFS, 0.000125  1  1 "PDP from canned peaches"
    42 Frozen: Cooked, 0.000125  1  1 "PDP from canned peaches"
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     51 Cured: NFS (smoked/p, 0.000125  1  1 "PDP from canned peaches"
 68 "05005DA","12", 0.00046  5  1  0 "Plums-prunes (dried)", "PDP from peaches"
 69 "05005JA","12", 0.00046  1.4  1  0 "Plums/prune-juice", "PDP from peaches"
 72 "06002AB","O", 0.00039  1  1  0 "Bananas", ""
 73 "06002DA","O", 0.00039  3.9  1  0 "Bananas-dried", ""
 78 "06005AA","O", 0.0001  1  1  0 "Figs", "tolerance and 1% crop treated"
 94 "06016AA","O", 0.00039  1  1  0 "Plantains-ripe", ""
 97 "06018AA","O", 0.0213  0.15  1  0 "Kiwi fruit", "FDA"
 148 "10010AA","9B", 0.000198  1  1  0 "Cucumbers", "FDA data"
 149 "10011AA","9B", 0.000198  1  1  0 "Pumpkin", "Translated from Cucumbers"
 155 "11003AA","8", 0.0083  1  1  0 "Peppers-sweet(garden)", "FDA "
 156 "11003AB","8", 0.0083  1  1  0 "Peppers-chilli incl jalapeno", "FDA "
 157 "11003AD","8", 0.0083  1  1  0 "Peppers-other", "FDA "
 168 "13005AA","5A", 0.00122  1  1  0 "Broccoli", "PDP 94"
 169 "13006AA","5A", 0.00217  1  1  0 "Brussels sprouts", "PDP 94 from broccoli"
 170 "13007AA","5A", 0.00136  1  1  0 "Cabbage-green and red", "FDA data"
 171 "13008AA","5A", 0.000046  1  1  0 "Cauliflower", "FDA"
 172 "13009AA","5B", 0.0015  1  1  0 "Collards", "FDA"
 174 "13011AA","5B", 0.006  1  1  0 "Kale", "FDA"
 175 "13012AA","5A", 0.0015  1  1  0 "Kohlrabi", "collards"
 183 "13021AA","5B", 0.0015  1  1  0 "Mustard greens", "collards"
 188 "13026AA","2", 0.0015  1  1  0 "Turnips-tops", "Sweet Potato data"
 195 "13049AA","O", 0.00025  1.5  1  1 "Grapes-leaves", "PDP 1994-1997"
     14 Boiled, 0.00025  1.5  1 "PDP 1994-1997"
 205 "14011AA","3", 0.00002  1  1  0 "Onions-dry-bulb (cipollini)", "1992 - 1997
FDA and 13% crop treated"
 206 "14011DA","3", 0.00002  9  1  0 "Onions-dehydrated or dried", ""
 212 "14014AA","1AB", 0.0043  1  1  0 "Radishes-roots", "FDA"
 213 "14014AB","2", 0.0015  1  1  0 "Radishes-tops", "PDP from sweet potato"
 214 "14015AA","1AB", 0.0011  1  1  0 "Rutabagas-roots", "PDP from sweet potato"
 218 "14018AA","1CD", 0.0011  1  1  6 "Sweet potatoes (incl yams)", "PDP
1994-1997"
     12 Cooked: NFS, 0.0011  1  1 "PDP 1994-1997"
     13 Baked, 0.0011  1  1 "PDP 1994-1997"
     14 Boiled, 0.0011  1  1 "PDP 1994-1997"
     15 Fried, 0.0011  1  1 "PDP 1994-1997"
     32 Canned: Cooked, 0.0011  0.15  1 "PDP 1994-1997"
     34 Canned: Boiled, 0.0011  0.15  1 "PDP 1994-1997"
 219 "14019AA","1AB", 0.0011  1  1  0 "Turnips-roots", "Sweet Potato data"
 227 "15001AA","6C", 0.00025  1  1  0 "Beans-dry-great northern", "1/2Tolerance
and % crop treated"
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 228 "15001AB","6C", 0.00025  1  1  0 "Beans-dry-kidney", "1/2Tolerance and %
crop treated"
 229 "15001AC","6C", 0.00025  1  1  0 "Beans-dry-lima", "1/2Tolerance and % crop
treated"
 230 "15001AD","6C", 0.00025  1  1  0 "Beans-dry-navy (pea)", "1/2Tolerance and
% crop treated"
 231 "15001AE","6C", 0.00025  1  1  0 "Beans-dry-other", "1/2Tolerance and %
crop treated"
 232 "15001AF","6C", 0.00025  1  1  0 "Beans-dry-pinto", "1/2Tolerance and %
crop treated"
 233 "15002AA","6B", 0.000032  1  1  0 "Beans-succulent-lima", "PDP and % crop
treated"
 234 "15003AA","6A", 0.000032  1  1  0 "Beans-succulent-green", "PDP 96 and 97"
 235 "15003AB","6A", 0.000032  1  1  0 "Beans-succulent-other", "PDP and % crop
treated"
 236 "15003AC","6A", 0.000032  1  1  0 "Beans-succulent-yellow/wax", "PDP and %
crop treated"
 240 "15007AA","6C", 0.00025  1  1  0 "Peas (garden)-dry", "1/2Tolerance and %
crop treated"
 241 "15009AA","6AB", 0.000033  1  1  0 "Peas (garden)-green", "PDP 1996"
 243 "15011AB","6C", 0.00025  1  1  0 "Lentils", "Tolerance and % crop treated"
 244 "15013AA","6C", 0.00025  1  1  0 "Mung beans (sprouts)", "from beans"
 249 "15022AA","6C", 0.00025  1  1  0 "Beans-dry-broadbeans", "1/2Tolerance and
% crop treated"
 250 "15022AB","6B", 0.000032  1  1  0 "Beans-succulent-broadbeans", "PDP and %
crop treated"
 251 "15023AA","6C", 0.00025  1  1  0 "Beans-dry-pigeon beans", "1/2Tolerance
and % crop treated"
 253 "15027AA","6", 0.000032  1  1  0 "Beans-unspecified", "PDP and % crop
treated"
 255 "15029AA","6A", 0.00032  0.33  1  0 "Soybeans-sprouted seeds", "Knizner
Memo."
 256 "15030AA","6C", 0.00025  1  1  0 "Beans-dry-hyacinth", "1/2Tolerance and %
crop treated"
 257 "15030AB","6", 0.000032  1  1  0 "Beans-succulent-hyacinth", "PDP and %
crop treated"
 258 "15031AA","6C", 0.00025  1  1  0 "Beans-dry-blackeye peas/cowpea",
"1/2Tolerance and % crop treated"
 259 "15032AA","6C", 0.00025  1  1  0 "Beans-dry-garbanzo/chick pea",
"1/2Tolerance and % crop treated"
 260 "16002AA","O", 0.00313  1  1  0 "Asparagus", "93-97 FDA and % crop treated"
 266 "24002EA","15", 0.00077  0.22  1  0 "Corn grain-endosperm", "Field trial"
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 267 "24002HA","15", 0.00077  1  1  0 "Corn grain-bran", "Field trial"
 268 "24002SA","15", 0.00077  0.05  1  0 "Corn grain/sugar/hfcs", "Field trial"
 276 "24007AA","15", 0.0032  0.86  1  4 "Wheat-rough", "PDP 1995-1997"
     11 Uncooked, 0.0032  0.86  1 "PDP 1995-1997"
     12 Cooked: NFS, 0.0032  0.86  1 "PDP 1995-1997"
     13 Baked, 0.0032  0.36  1 "PDP 1995-1997"
     14 Boiled, 0.0032  0.026  1 "PDP 1995-1997"
 277 "24007GA","15", 0.0032  2.7  1  0 "Wheat-germ", "PDP 1995-1997"
 278 "24007HA","15", 0.0032  3  1  0 "Wheat-bran", "PDP 1995-1997"
 279 "24007WA","15", 0.0032  0.145  1  14 "Wheat-flour", "PDP 1995-1997"
     11 Uncooked, 0.0032  0.145  1 "PDP 1995-1997"
     12 Cooked: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     13 Baked, 0.0032  0.145  1 "PDP 1995-1997"
     14 Boiled, 0.0032  0.026  1 "PDP 1995-1997"
     15 Fried, 0.0032  0.145  1 "PDP 1995-1997"
     31 Canned: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     32 Canned: Cooked, 0.0032  0.145  1 "PDP 1995-1997"
     33 Canned: Baked, 0.0032  0.145  1 "PDP 1995-1997"
     34 Canned: Boiled, 0.0032  0.026  1 "PDP 1995-1997"
     41 Frozen: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     42 Frozen: Cooked, 0.0032  0.145  1 "PDP 1995-1997"
     43 Frozen: Baked, 0.0032  0.145  1 "PDP 1995-1997"
     45 Frozen: Fried, 0.0032  0.145  1 "PDP 1995-1997"
     52 Cured: Cooked(smokd/, 0.0032  0.145  1 "PDP 1995-1997"
 282 "25002SA","1A", 0.000628  1  1  1 "Sugar-beet", "PDP from Sweet Potato"
     98 Refined, 0.000628  0.1  1 "PDP from Sweet Potato"
 287 "26011AA","6C", 0.00025  1  1  0 "Guar beans", "Tolerance and % crop
treated"
 289 "27002OA","15", 0.00077  4.5  1  0 "Corn grain-oil", "Field trial"
 290 "27003OA","O", 0.0023  1  1  0 "Cottonseed-oil", "Field trial % crop
treated and processing factor."
 293 "27007OA","O", 0.001  2  1  0 "Peanuts-oil", "steve knizner 7/95 ar memo
for the processing fact"
 297 "27010OA","6A", 0.00032  0.14  1  0 "Soybeans-oil", "Knizner Memo.
Reduction factor."
 298 "27011OA","O", 0.00046  1  1  0 "Sunflower-oil", "knizner 7/95 memo"
 303 "15023AA","6A", 0.00032  1  1  0 "Soybean-other", "Knizner Memo."
 304 "28023AB","6A", 0.00032  1  1  0 "Soybeans-mature seeds dry", "Knizner
Memo."
 305 "28023WA","6A", 0.00032  1  1  0 "Soybeans-flour (full fat)", "Knizner
Memo."
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 306 "28023WB","6A", 0.00032  1  1  0 "Soybeans-flour (low fat)", "Knizner
Memo."
 307 "28023WC","6A", 0.00032  1  1  0 "Soybeans-flour (defatted)", "Knizner
Memo."
 311 "28080OA","O", 1.52  1  1  0 "Peppermint-oil", "Tolerance of Hay, 10x CF,
percent crop treated"
 313 "28081OA","O", 1.52  1  1  0 "Spearmint-oil", "Hay tolerance x 10 CF x
percent crop treated"
 315 "43058AA","O", 0.00025  0.02  1  1 "Grapes-wine and sherry", "PDP
1994-1997"
     99 Alcohol/Fermented/Di, 0.00025  0.02  1 "PDP 1994-1997"
 317 "43060AA","O", 0.0002  1  1  0 "Gelatin", "from lean beef"
 321 "53001BA","M", 0.0002  0.5  1  0 "Beef-meat byproducts", "Registrants'
Market Basket Survey"
 322 "53001BB","M", 0.0002  0.5  1  0 "Beef-other organ meats", "Registrants'
Market Basket Survey"
 323 "53001DA","M", 0.0002  0.96  1  0 "Beef-dried", "Registrants' Market Basket
Survey"
 324 "53001FA","M", 0.001  0.5  1  0 "Beef-fat w/o bones", "Registrants' Market
Basket Survey"
 325 "53001KA","M", 0.0002  0.5  1  0 "Beef-kidney", "Registrants' Market Basket
Survey"
 326 "53001LA","M", 0.0002  0.5  1  0 "Beef-liver", "Registrants' Market Basket
Survey"
 327 "53001MA","M", 0.0002  0.5  1  0 "Beef-lean (fat/free) w/o bones",
"Registrants' Market Basket Survey"
 328 "53002BA","M", 0.0002  0.5  1  0 "Goat-meat byproducts", "Registrants'
Market Basket Survey"
 329 "53002BB","M", 0.0002  0.5  1  0 "Goat-other organ meats", "Registrants'
Market Basket Survey"
 330 "53002FA","M", 0.001  0.5  1  0 "Goat-fat w/o bone", "Registrants' Market
Basket Survey"
 331 "53002KA","M", 0.0002  0.5  1  0 "Goat-kidney", "Registrants' Market Basket
Survey"
 332 "53002LA","M", 0.0002  0.5  1  0 "Goat-liver", "Registrants' Market Basket
Survey"
 333 "53002MA","M", 0.0002  0.5  1  0 "Goat-lean (fat/free) w/o bone",
"Registrants' Market Basket Survey"
 334 "53003AA","M", 0.0002  0.5  1  0 "Horsemeat", "Translated from Beef."
 336 "53005BA","M", 0.0002  0.5  1  0 "Sheep-meat byproducts", "Market Basket"
 337 "53005BB","M", 0.0002  0.5  1  0 "Sheep-other organ meats", "Market Basket"
 338 "53005FA","M", 0.001  0.5  1  0 "Sheep-fat w/o bone", "Market Basket"
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 339 "53005KA","M", 0.0002  0.5  1  0 "Sheep-kidney", "Market Basket"
 340 "53005LA","M", 0.0002  0.5  1  0 "Sheep-liver", "Market Basket"
 341 "53005MA","M", 0.0002  0.5  1  0 "Sheep-lean (fat free) w/o bone", "Market
Basket"
 342 "53006BA","M", 0.0001  0.5  1  0 "Pork-meat byproducts", "Pork Sausage"
 343 "53006BB","M", 0.0001  0.5  1  0 "Pork-other organ meats", "Pork Sausage"
 344 "53006FA","M", 0.0005  0.5  1  0 "Pork-fat w/o bone", "Pork Sausage"
 345 "53006KA","M", 0.0001  0.5  1  0 "Pork-kidney", "Pork Sausage"
 346 "53006LA","M", 0.0001  0.5  1  0 "Pork-liver", "Pork Sausage"
 347 "53006MA","M", 0.0001  0.5  1  0 "Pork-lean (fat free) w/o bone", "Pork
Sausage"
 355 "55008BA","P", 0.000002  0.5  1  0 "Turkey-byproducts", "Dietary Burden
Calculation"
 356 "55008LA","P", 0.000002  0.5  1  0 "Turkey-giblets (liver)", "Dietary
Burden Calculation"
 357 "55008MA","P", 0.000027  0.5  1  0 "Turkey--fat w/o bones", "Dietary Burden
Calculation"
 358 "55008MB","P", 0.000002  0.5  1  0 "Turkey- lean/fat free w/o bones",
"Dietary Burden Calculation"
 360 "55013BA","P", 0.000002  0.5  1  0 "Poultry-other-lean (fat free) w/o
bone", "dietary burden"
 361 "55013LA","P", 0.000002  0.5  1  0 "Poultry-other-giblets(liver)", "dietary
burden"
 362 "55013MA","P", 0.000027  0.5  1  0 "Poultry-other-fat w/o bones", "dietary
burden"
 363 "55014AA","P", 0.000004  1  1  0 "Eggs-whole", "Dietary Burden"
 364 "55014AB","P", 0.000004  1  1  0 "Eggs-white only", "Dietary Burden"
 365 "55014AC","P", 0.000004  1  1  0 "Eggs-yolk only", "Dietary Burden"
 366 "55015BA","P", 0.000002  0.5  1  0 "Chicken-byproducts", "Dietary Burden
Calculations"
 367 "55015LA","P", 0.000002  0.5  1  0 "Chicken-giblets(liver)", "Dietary
Burden Calculations"
 368 "55015MA","P", 0.000027  0.5  1  0 "Chicken-fat w/o bones", "Dietary Burden
Calculations"
 369 "55015MB","P", 0.000002  0.5  1  0 "Chicken-lean/fat free w/o bones",
"Dietary Burden Calculations"
 377 "04001JC","11", 0.000052  3  1  4 "Apples-juice-concentrate", "PDP 94-96
with 44% crop treated"
     12 Cooked: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     13 Baked, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     31 Canned: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     41 Frozen: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
```

```
 378 "06002NA","O", 0.00039  1  1  0 "Bananas-juice", ""
 379 "25002MO","1A", 0.000628  1  1  1 "Sugar-beet-molasses", "PDP from Sweet
Potato"
     98 Refined, 0.000628  1  1 "PDP from Sweet Potato "
 383 "13007SA","5B", 0.00136  1  1  0 "Cabbage-savoy", "FDA data"
 385 "55015EL","P", 0.000002  0.5  1  0 "Chicken-giblets (excl. liver)",
"Dietary Burden Calculations"
 388 "24002MO","15", 0.00077  0.05  1  0 "Corn grain/sugar-molasses", "Field
trial"
 389 "01010JC","O", 0.0202  1  1  0 "Cranberries-juice-concentrate", "Cranberry
Institute data"
 392 "01014JC","O", 0.00025  0.9  1  5 "Grapes-juice-concentrate", "PDP
1994-1997"
     12 Cooked: NFS, 0.00025  0.9  1 "PDP 1994-1997"
     13 Baked, 0.00025  0.9  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.9  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  0.9  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  0.9  1 "PDP 1994-1997"
 402 "05004JA","12", 0.0011  1  1  2 "Peaches-juice", "PDP"
     11 Uncooked, 0.0011  1  1 "PDP"
     31 Canned: NFS, 0.0011  1  1 "PDP"
 403 "15006BT","O", 0.0051  1  1  2 "Peanuts-butter", "market basket"
     13 Baked, 0.0051  1  1 "market basket"
     14 Boiled, 0.0051  1  1 "market basket"
 404 "04003NA","11", 0.00066  0.15  1  0 "Pears-juice", "1997 PDP"
 405 "15008AA","6B", 0.000033  1  1  0 "Peas-succulent/blackeye/cowpea", "PDP
1996"
 407 "14023AA","1AB", 0.0043  1  1  0 "Radishes-japanese (daiken)", "FDA"
 413 "15009AB","6A", 0.000033  1  1  0 "Snowpeas", "PDP 1996"
 416 "01016JA","O", 0.00021  0.3  1  0 "Strawberries-juice", "FDA data"
 417 "15018HA","O", 0.00046  1  1  0 "Sunflower-seeds", "acute AR * 1% crop
treated"
 418 "14018LV","2", 0.0011  1  1  0 "Sweet potatos-leaves", "PDP 1994-1997"
 420 "02008JC","10", 0.00022  3.2  1  0 "Tangerines-juice-concentrate", "market
basket"
 431 "030090L","14", 0.015  1  1  0 "Walnut oil", "Field trials from Walnuts and
Almonds"
 437 "24007OL","15", 0.0032  2.7  1  0 "Wheat-germ oil", "PDP 1995-1997"
 441 "02002JC","10", 0.000165  3.93  1  0 "Grapefruit-juice-concentrate",
"market basket"
 442 "02004JC","10", 0.00041  5.7  1  0 "Lemons-juice-concentrate", "market
basket"
```

```
 443 "02005JC","10", 0.00022  3  1  0 "Limes-juice-concentrate", "market basket"
 448 "02002HA","10", 0.00055  8  1  0 "Grapefruit peel", "Translated from
oranges"
 449 "No Code","P", 0.000002  0.5  1  0 "Turkey-other organ meats", "Dietary
Burden Calculation"
 451 "No Code","5A", 0.00122  1  1  0 "Broccoli-chinese", "PDP 94 from broccoli"
 452 "No Code","5B", 0.0015  1  1  0 "Bok choy", "FDA data"
 480 "06016GA","O", 0.00039  1  1  0 "Plantains-green", ""
 481 "06016DA","O", 0.00039  3.9  1  0 "Plantains-dried", ""
 482 "No Code","O", 0.00032  1  1  0 "Soybeans-protein isolate", "Knizner Memo."
 484 "No Code","O", 0.0043  1  1  0 "Radishes-oriental", "FDA"
 940 "No Code","O", 0.001  1  1  0 "Peanuts-hulled", "FDA and 10 % CT"
```

Attachment 2.b. DEEM File for Chronic Analysis Using PDP Data for Apples and Including FHE Uses

```
"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:49:54
-1  "This is for chronic dietary exposure analysis."
 999  0
 1 "01002AA","13A", 0.005  0.24  1  0 "Blackberries", ""
 2 "01003AA","13A", 0.005  0.24  1  0 "Boysenberries", ""
 3 "01004AA","13A", 0.005  0.24  1  0 "Dewberries", ""
 4 "01005AA","13A", 0.005  0.24  1  0 "Loganberries", ""
 5 "01006AA","13A", 0.005  0.24  1  0 "Raspberries", ""
 6 "01007AA","13A", 0.005  0.24  1  0 "Youngberries", ""
 7 "01009AA","13B", 0.005  0.24  1  0 "Blueberries", ""
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute
data"
 10 "01011AA","13B", 0.005  0.24  1  0 "Currants", ""
 11 "01012AA","13B", 0.005  0.24  1  0 "Elderberries", ""
 12 "01013AA","13B", 0.005  0.24  1  0 "Gooseberries", ""
 13 "01014AA","O", 0.00025  1  1  4 "Grapes", "PDP 1994-1997"
     11 Uncooked, 0.00025  1  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  1  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  1  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00025  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
     11 Uncooked, 0.00025  0.17  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  0.17  1 "PDP 1994-1997"
     13 Baked, 0.00025  0.17  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.17  1 "PDP 1994-1997"
     18 Dried, 0.00025  0.17  1 "PDP 1994-1997"
     42 Frozen: Cooked, 0.00025  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00025  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
     11 Uncooked, 0.00025  0.3  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  0.3  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.3  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  0.3  1 "PDP 1994-1997"
     34 Canned: Boiled, 0.00025  0.3  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  0.3  1 "PDP 1994-1997"
 16 "01015AA","13B", 0.005  0.24  1  0 "Huckleberries", ""
```

```
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 18 "01024AA","O", 0.005  0.24  1  0 "Juneberry", ""
 19 "01025AA","O", 0.005  0.24  1  0 "Mulberries", ""
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from
oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from
oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market
basket"
 34 "02006AB","10", 0.0012  1  1  3 "Oranges-peeled fruit", "PDP"
     11 Uncooked, 0.0012  1  1 "PDP"
     12 Cooked: NFS, 0.0012  1  1 "PDP"
     31 Canned: NFS, 0.0005  1  1 "PDP"
 35 "02006HA","10", 0.0012  15  1  4 "Oranges-peel", "PDP"
     11 Uncooked, 0.0012  15  1 "PDP"
     12 Cooked: NFS, 0.0012  15  1 "PDP"
     31 Canned: NFS, 0.0005  15  1 "PDP"
     41 Frozen: NFS, 0.0005  15  1 "PDP"
 36 "02006JA","10", 0.00012  1  1  0 "Oranges-juice", "market basket"
 37 "02007AA","10", 0.00073  1  1  0 "Tangelos", "PDP from Oranges"
 38 "02008AA","10", 0.00073  1  1  0 "Tangerines", "PDP from Oranges"
 39 "02008JA","10", 0.00022  1  1  0 "Tangerines-juice", "market basket"
 40 "03001AA","14", 0.01  1  1  0 "Almonds", "Field trials from Walnuts and
Almonds"
 44 "03005AA","14", 0.003  1  1  0 "Filberts (hazelnuts)", "Field trials from
Walnuts and Almonds"
 46 "03007AA","14", 0.003  1  1  0 "Macadamia nuts (bush nuts)", "Field trials
from Walnuts and Almonds"
 47 "03008AA","14", 0.014  1  1  0 "Pecans", "Field trials from Walnuts and
Almonds"
 48 "03009AA","14", 0.015  1  1  0 "Walnuts", "Field trials from Walnuts and
Almonds"
 50 "03011AA","O", 0.005  0.24  1  0 "Pistachio nuts", ""
 52 "04001AA","11", 0.00049  1  1  11 "Apples", "PDP"
```

```
     11 Uncooked, 0.00049  1  1 "PDP"
     12 Cooked: NFS, 0.00049  0.15  1 "PDP"
     13 Baked, 0.00049  0.15  1 "PDP"
     14 Boiled, 0.00013  1  1 "market basket"
     15 Fried, 0.00049  0.15  1 "PDP"
     18 Dried, 0.00049  1.2  1 "PDP"
     31 Canned: NFS, 0.00013  1  1 "market basket"
     32 Canned: Cooked, 0.00013  1  1 "market basket"
     33 Canned: Baked, 0.00013  1  1 "market basket"
     34 Canned: Boiled, 0.00013  1  1 "market basket"
     42 Frozen: Cooked, 0.00013  1  1 "market basket"
 53 "04001DA","11", 0.00049  1.2  1  4 "Apples-dried", "PDP 94-96 with 44% crop
treated"
     13 Baked, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
     14 Boiled, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
     18 Dried, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
     42 Frozen: Cooked, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
 54 "04001JA","11", 0.000052  1  1  5 "Apples-juice/cider", "PDP 94-96 with 44%
crop treated"
     11 Uncooked, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
     12 Cooked: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
     14 Boiled, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
     31 Canned: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
     41 Frozen: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
 55 "04002AA","11", 0.005  0.24  1  0 "Crabapples", ""
 56 "04003AA","11", 0.00066  1  1  5 "Pears", "1997 PDP"
     11 Uncooked, 0.00066  1  1 "1997 PDP"
     12 Cooked: NFS, 0.00066  0.15  1 "1997 PDP"
     13 Baked, 0.00066  0.15  1 "1997 PDP"
     14 Boiled, 0.00066  0.15  1 "1997 PDP"
     31 Canned: NFS, 0.00066  0.15  1 "1997 PDP"
 57 "04003DA","11", 0.00066  0.94  1  3 "Pears-dried", "1997 PDP"
     13 Baked, 0.00066  0.94  1 "1997 PDP"
     14 Boiled, 0.00066  0.94  1 "1997 PDP"
     18 Dried, 0.00066  0.94  1 "1997 PDP"
 58 "04004AA","11", 0.005  0.24  1  0 "Quinces", ""
 59 "05001AA","12", 0.005  0.24  1  0 "Apricots", ""
 60 "05001DA","12", 0.005  0.24  1  0 "Apricots-dried", ""
 61 "05002AA","12", 0.0012  1  1  0 "Cherries", "FDA"
 62 "05002DA","12", 0.0012  4  1  0 "Cherries-dried", "FDA"
 63 "05002JA","12", 0.0012  0.3  1  4 "Cherries-juice", "FDA"
     13 Baked, 0.0012  0.3  1 "FDA"
```

```
    14 Boiled, 0.0012  0.3  1 "FDA"
    31 Canned: NFS, 0.0012  0.3  1 "FDA"
    41 Frozen: NFS, 0.0012  0.3  1 "FDA"
64 "05003AA","12", 0.00073  1  1  1 "Nectarines", "PDP Peaches"
    11 Uncooked, 0.00073  1  1 "PDP Peaches"
65 "05004AA","12", 0.0011  1  1  6 "Peaches", "PDP"
    11 Uncooked, 0.0011  1  1 "PDP"
    12 Cooked: NFS, 0.0011  1  1 "PDP"
    13 Baked, 0.0011  1  1 "PDP"
    14 Boiled, 0.0011  1  1 "PDP"
    31 Canned: NFS, 0.000275  1  1 "PDP 1997 canned"
    41 Frozen: NFS, 0.000275  1  1 "PDP 1997 canned"
66 "05004DA","12", 0.0011  7  1  0 "Peaches-dried", "PDP"
67 "05005AA","12", 0.00046  1  1  5 "Plums (damsons)", "PDP from peaches"
    11 Uncooked, 0.00046  1  1 "PDP from peaches"
    12 Cooked: NFS, 0.00046  1  1 "PDP from peaches"
    31 Canned: NFS, 0.000125  1  1 "PDP from canned peaches"
    42 Frozen: Cooked, 0.000125  1  1 "PDP from canned peaches"
    51 Cured: NFS (smoked/p, 0.000125  1  1 "PDP from canned peaches"
68 "05005DA","12", 0.00046  5  1  0 "Plums-prunes (dried)", "PDP from peaches"
69 "05005JA","12", 0.00046  1.4  1  0 "Plums/prune-juice", "PDP from peaches"
70 "06001AA","O", 0.005  0.24  1  0 "Avocados", ""
72 "06002AB","O", 0.00039  1  1  0 "Bananas", ""
73 "06002DA","O", 0.00039  3.9  1  0 "Bananas-dried", ""
74 "06003AA","O", 0.005  0.24  1  0 "Coconut", ""
75 "06003DA","O", 0.005  2.1  1  0 "Coconut-dried (copra)", ""
76 "06003JA","O", 0.005  0.24  1  0 "Coconut-water", ""
77 "06004AA","O", 0.005  0.24  1  0 "Dates", ""
78 "06005AA","O", 0.0001  1  1  0 "Figs", "tolerance and 1% crop treated"
79 "06006AA","O", 0.005  0.24  1  0 "Guava", ""
80 "06007AA","O", 0.005  0.24  1  0 "Mangoes", ""
81 "06008AA","11", 0.005  0.24  1  0 "Loquats", ""
82 "06009AA","O", 0.005  0.24  1  0 "Olives", ""
84 "06010AB","O", 0.005  0.24  1  0 "Papayas-pulp", ""
85 "06010DA","O", 0.005  0.24  1  0 "Papayas-dried", ""
86 "06010JA","O", 0.005  0.24  1  0 "Papayas-juice", ""
87 "06011AA","O", 0.005  0.24  1  0 "Pawpaws", ""
88 "06012AA","O", 0.005  0.24  1  0 "Persimmons", ""
89 "06013AA","O", 0.005  0.24  1  0 "Pineapples-peeled fruit", ""
90 "06013DA","O", 0.005  0.24  1  0 "Pineapples-dried", ""
91 "06013JA","O", 0.005  0.24  1  0 "Pineapples-juice", ""
92 "06014AA","O", 0.005  0.24  1  0 "Passion fruit (granadilla)", ""
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93 "06015AA","O", 0.005  0.24  1  0 "Pomegranates", ""
94 "06016AA","O", 0.00039  1  1  0 "Plantains-ripe", ""
95 "06017AA","O", 0.005  0.24  1  0 "Lychees (litchi)/fresh", ""
96 "06017DA","O", 0.005  0.24  1  0 "Lychee-dried", ""
97 "06018AA","O", 0.0213  0.15  1  0 "Kiwi fruit", "FDA"
98 "06020AA","O", 0.005  0.24  1  0 "Acerola", ""
99 "06021AA","O", 0.005  0.24  1  0 "Ginkgo nuts", ""
100 "06022AA","O", 0.005  0.24  1  0 "Maney (mammee apple)", ""
101 "06023AA","O", 0.005  0.24  1  0 "Pitanga (surinam cherry)", ""
102 "06024AA","O", 0.005  0.24  1  0 "Soursop (annona muricata)", ""
103 "06025AA","O", 0.005  0.24  1  0 "Sugar apples (sweetsop)", ""
104 "06026AA","O", 0.005  0.24  1  0 "Bread fruit", ""
105 "06027AA","O", 0.005  0.24  1  0 "Bread nuts", ""
106 "06029AA","O", 0.005  0.24  1  0 "Carambola (starfruit)", ""
107 "06030AA","O", 0.005  0.24  1  0 "Cherimoya", ""
108 "06031AA","O", 0.005  0.24  1  0 "Longan fruit", ""
109 "06033AA","O", 0.005  0.24  1  0 "Genip (spanish lime)", ""
110 "07001FA","O", 0.005  0.24  1  0 "Chocolate-cocoa butter", ""
111 "07001SA","O", 0.005  0.24  1  0 "Chocolate", ""
112 "07002AA","O", 0.005  0.24  1  0 "Coffee", ""
113 "07003AA","O", 0.005  0.24  1  0 "Tea", ""
114 "07006AA","1AB", 0.005  0.24  1  0 "Chicory", ""
115 "08004AA","19B", 0.005  0.24  1  0 "Anise", ""
116 "08006AA","19A", 0.005  0.24  1  0 "Basil", ""
117 "08007AA","19B", 0.005  0.24  1  0 "Caraway", ""
118 "08008AA","19B", 0.005  0.24  1  0 "Cassia", ""
119 "08011AA","19B", 0.005  0.24  1  0 "Cinnamon", ""
120 "08012AA","19B", 0.005  0.24  1  0 "Clove", ""
121 "08013AA","19B", 0.005  0.24  1  0 "Coriander", ""
122 "08014AA","19B", 0.005  0.24  1  0 "Cumin", ""
123 "08015AA","19A", 0.005  0.24  1  0 "Dill", ""
124 "08019AA","1CD", 0.005  0.24  1  0 "Ginger", ""
125 "08020AA","O", 0.005  0.24  1  0 "Hops", ""
126 "08022AA","1AB", 0.005  0.24  1  0 "Horseradish", ""
127 "08023AA","19A", 0.005  0.24  1  0 "Rosemary", ""
128 "08026AA","19A", 0.005  0.24  1  0 "Marjoram", ""
129 "08026AB","19A", 0.005  0.24  1  0 "Oregano", ""
130 "08028AA","19B", 0.005  0.24  1  0 "Mustard seed", ""
131 "08029AA","19B", 0.005  0.24  1  0 "Nutmeg", ""
132 "08029AB","19B", 0.005  0.24  1  0 "Mace", ""
133 "08035AA","19A", 0.005  0.24  1  0 "Sage", ""
134 "08036AA","19A", 0.005  0.24  1  0 "Savory", ""
```

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135 "08038AA","19A", 0.005  0.24  1  0 "Bay", ""
136 "08042AA","19A", 0.005  0.24  1  0 "Thyme", ""
137 "08043AA","1CD", 0.005  0.24  1  0 "Turmeric", ""
138 "08047AA","19B", 0.005  0.24  1  0 "Allspice", ""
139 "08048DA","8", 0.005  0.24  1  0 "Paprika", ""
140 "08049AA","19B", 0.005  0.24  1  0 "Poppy", ""
141 "10002NA","9A", 0.005  0.24  1  0 "Melons-cantaloupes-juice", ""
142 "10002AB","9A", 0.005  0.24  1  0 "Melons-cantaloupes-pulp", ""
143 "10003AA","9A", 0.005  0.24  1  0 "Casabas", ""
144 "10004AA","9A", 0.005  0.24  1  0 "Crenshaws", ""
145 "10005AA","9A", 0.005  0.24  1  0 "Melons-honeydew", ""
146 "10007AA","9A", 0.005  0.24  1  0 "Melons-persian", ""
147 "10008AA","9A", 0.005  0.24  1  0 "Watermelon", ""
148 "10010AA","9B", 0.000198  1  1  0 "Cucumbers", "FDA data"
149 "10011AA","9B", 0.000198  1  1  0 "Pumpkin", "Translated from Cucumbers"
150 "10013AA","9B", 0.005  0.24  1  0 "Squash-summer", ""
151 "10014AA","9B", 0.005  0.24  1  0 "Squash-winter", ""
152 "10017AA","9B", 0.005  0.24  1  0 "Bitter melon", ""
153 "10020AA","O", 0.005  0.24  1  0 "Towelgourd", ""
154 "11001AA","8", 0.005  0.24  1  0 "Eggplant", ""
155 "11003AA","8", 0.0083  1  1  0 "Peppers-sweet(garden)", "FDA "
156 "11003AB","8", 0.0083  1  1  0 "Peppers-chilli incl jalapeno", "FDA "
157 "11003AD","8", 0.0083  1  1  0 "Peppers-other", "FDA "
158 "11004AA","8", 0.005  0.24  1  0 "Pimientos", ""
164 "11006AA","8", 0.005  0.24  1  0 "Groundcherries", ""
165 "13001AA","2", 0.005  0.24  1  0 "Beets-garden-tops(greens)", ""
166 "13002AA","4B", 0.005  0.24  1  0 "Celery", ""
167 "13003AA","4A", 0.005  0.24  1  0 "Chicory(french/belgian endive)", ""
168 "13005AA","5A", 0.00122  1  1  0 "Broccoli", "PDP 94"
169 "13006AA","5A", 0.00217  1  1  0 "Brussels sprouts", "PDP 94 from broccoli"
170 "13007AA","5A", 0.00136  1  1  0 "Cabbage-green and red", "FDA data"
171 "13008AA","5A", 0.000046  1  1  0 "Cauliflower", "FDA"
172 "13009AA","5B", 0.0015  1  1  0 "Collards", "FDA"
174 "13011AA","5B", 0.006  1  1  0 "Kale", "FDA"
175 "13012AA","5A", 0.0015  1  1  0 "Kohlrabi", "collards"
176 "13013AA","4A", 0.005  0.24  1  0 "Lettuce-leafy varieties", ""
177 "13014AA","4A", 0.005  0.24  1  0 "Dandelion-greens", ""
178 "13015AA","4A", 0.005  0.24  1  0 "Endive-curley and escarole", ""
179 "13016AA","19B", 0.005  0.24  1  0 "Fennel", ""
180 "13017AA","4A", 0.005  0.24  1  0 "Cress-garden/field", ""
181 "13018AA","O", 0.005  0.24  1  0 "Artichokes-globe", ""
182 "13020AA","4A", 0.005  0.24  1  0 "Lettuce-unspecified", ""
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 183 "13021AA","5B", 0.0015  1  1  0 "Mustard greens", "collards"
 184 "13022AA","4A", 0.005  0.24  1  0 "Parsley", ""
 185 "13023AA","4B", 0.005  0.24  1  0 "Rhubarb", ""
 186 "13024AA","4A", 0.005  0.24  1  0 "Spinach", ""
 187 "13025AA","4B", 0.005  0.24  1  0 "Swiss chard", ""
 188 "13026AA","2", 0.0015  1  1  0 "Turnips-tops", "Sweet Potato data"
 189 "13027AA","O", 0.005  0.24  1  0 "Watercress", ""
 190 "13034AA","2", 0.005  0.24  1  0 "Taro-greens", ""
 191 "13039AA","4A", 0.005  0.24  1  0 "Cress-upland", ""
 192 "13045AA","4A", 0.005  0.24  1  0 "Lettuce-head varieties", ""
 193 "13047AA","O", 0.005  0.24  1  0 "Lambsquarter", ""
 194 "13048AA","O", 0.005  0.24  1  0 "Cactus pads (nopal)", ""
 195 "13049AA","O", 0.00025  1.5  1  1 "Grapes-leaves", "PDP 1994-1997"
     14 Boiled, 0.00025  1.5  1 "PDP 1994-1997"
 196 "13999AA","O", 0.005  0.24  1  0 "Oriental vegetables/leafy", ""
 197 "14001AA","1AB", 0.005  0.24  1  0 "Beets-garden-roots", ""
 198 "14003AA","1AB", 0.005  0.24  1  0 "Carrots", ""
 199 "14004AA","1AB", 0.005  0.24  1  0 "Celeriac", ""
 200 "14005AA","19A", 0.005  0.24  1  0 "Chives", ""
 201 "14006AA","1CD", 0.005  0.24  1  0 "Taro-root", ""
 202 "14007AA","3", 0.005  0.24  1  0 "Garlic", ""
 203 "14009AA","1CD", 0.005  0.24  1  0 "Artichokes-jerusalem", ""
 204 "14010AA","3", 0.005  0.24  1  0 "Leeks", ""
 205 "14011AA","3", 0.00002  1  1  0 "Onions-dry-bulb (cipollini)", "1992 - 1997
FDA and 13% crop treated"
 206 "14011DA","3", 0.00002  9  1  0 "Onions-dehydrated or dried", ""
 207 "14013AA","1C", 0.005  0.24  1  0 "Potatoes/white-whole", ""
 208 "14013AB","1C", 0.005  0.24  1  0 "Potatoes/white-unspecified", ""
 209 "14013AC","1C", 0.005  0.24  1  0 "Potatoes/white-peeled", ""
 210 "14013DA","1C", 0.005  0.24  1  0 "Potatoes/white-dry", ""
 211 "14013HA","1C", 0.005  0.24  1  0 "Potatoes/white-peel only", ""
 212 "14014AA","1AB", 0.0043  1  1  0 "Radishes-roots", "FDA"
 213 "14014AB","2", 0.0015  1  1  0 "Radishes-tops", "PDP from sweet potato"
 214 "14015AA","1AB", 0.0011  1  1  0 "Rutabagas-roots", "PDP from sweet potato"
 216 "14016AA","1AB", 0.005  0.24  1  0 "Salsify(oyster plant)", ""
 217 "14017AA","3", 0.005  0.24  1  0 "Shallots", ""
 218 "14018AA","1CD", 0.0011  1  1  6 "Sweet potatoes (incl yams)", "PDP
1994-1997"
     12 Cooked: NFS, 0.0011  1  1 "PDP 1994-1997"
     13 Baked, 0.0011  1  1 "PDP 1994-1997"
     14 Boiled, 0.0011  1  1 "PDP 1994-1997"
     15 Fried, 0.0011  1  1 "PDP 1994-1997"
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     32 Canned: Cooked, 0.0011  0.15  1 "PDP 1994-1997"
     34 Canned: Boiled, 0.0011  0.15  1 "PDP 1994-1997"
 219 "14019AA","1AB", 0.0011  1  1  0 "Turnips-roots", "Sweet Potato data"
 220 "14021AA","1AB", 0.005  0.24  1  0 "Parsnips", ""
 221 "14024AA","1CD", 0.005  0.24  1  0 "Yam-bean tuber (jicama)", ""
 222 "14026AA","1CD", 0.005  0.24  1  0 "Cassava (yuca blanca)", ""
 224 "14028AA","1CD", 0.005  0.24  1  0 "Yautia (tanier)", ""
 225 "14030AA","1AB", 0.005  0.24  1  0 "Parsley roots", ""
 226 "14031AA","O", 0.005  0.24  1  0 "Water chestnuts", ""
 227 "15001AA","6C", 0.00025  1  1  0 "Beans-dry-great northern", "1/2Tolerance
and % crop treated"
 228 "15001AB","6C", 0.00025  1  1  0 "Beans-dry-kidney", "1/2Tolerance and %
crop treated"
 229 "15001AC","6C", 0.00025  1  1  0 "Beans-dry-lima", "1/2Tolerance and % crop
treated"
 230 "15001AD","6C", 0.00025  1  1  0 "Beans-dry-navy (pea)", "1/2Tolerance and
% crop treated"
 231 "15001AE","6C", 0.00025  1  1  0 "Beans-dry-other", "1/2Tolerance and %
crop treated"
 232 "15001AF","6C", 0.00025  1  1  0 "Beans-dry-pinto", "1/2Tolerance and %
crop treated"
 233 "15002AA","6B", 0.000032  1  1  0 "Beans-succulent-lima", "PDP and % crop
treated"
 234 "15003AA","6A", 0.000032  1  1  0 "Beans-succulent-green", "PDP 96 and 97"
 235 "15003AB","6A", 0.000032  1  1  0 "Beans-succulent-other", "PDP and % crop
treated"
 236 "15003AC","6A", 0.000032  1  1  0 "Beans-succulent-yellow/wax", "PDP and %
crop treated"
 237 "15004AA","15", 0.005  0.24  1  0 "Corn/pop", ""
 240 "15007AA","6C", 0.00025  1  1  0 "Peas (garden)-dry", "1/2Tolerance and %
crop treated"
 241 "15009AA","6AB", 0.000033  1  1  0 "Peas (garden)-green", "PDP 1996"
 243 "15011AB","6C", 0.00025  1  1  0 "Lentils", "Tolerance and % crop treated"
 244 "15013AA","6C", 0.00025  1  1  0 "Mung beans (sprouts)", "from beans"
 245 "15015AA","O", 0.005  0.24  1  0 "Okra", ""
 247 "15020AA","O", 0.005  0.24  1  0 "Carob", ""
 248 "15021AA","O", 0.005  0.24  1  0 "Alfalfa sprouts", ""
 249 "15022AA","6C", 0.00025  1  1  0 "Beans-dry-broadbeans", "1/2Tolerance and
% crop treated"
 250 "15022AB","6B", 0.000032  1  1  0 "Beans-succulent-broadbeans", "PDP and %
crop treated"
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 251 "15023AA","6C", 0.00025  1  1  0 "Beans-dry-pigeon beans", "1/2Tolerance
and % crop treated"
 252 "15026AA","O", 0.005  0.24  1  0 "Sesame seeds", ""
 253 "15027AA","6", 0.000032  1  1  0 "Beans-unspecified", "PDP and % crop
treated"
 254 "15028AA","O", 0.005  0.24  1  0 "Pinenuts", ""
 255 "15029AA","6A", 0.00032  0.33  1  0 "Soybeans-sprouted seeds", "Knizner
Memo."
 256 "15030AA","6C", 0.00025  1  1  0 "Beans-dry-hyacinth", "1/2Tolerance and %
crop treated"
 257 "15030AB","6", 0.000032  1  1  0 "Beans-succulent-hyacinth", "PDP and %
crop treated"
 258 "15031AA","6C", 0.00025  1  1  0 "Beans-dry-blackeye peas/cowpea",
"1/2Tolerance and % crop treated"
 259 "15032AA","6C", 0.00025  1  1  0 "Beans-dry-garbanzo/chick pea",
"1/2Tolerance and % crop treated"
 260 "16002AA","O", 0.00313  1  1  0 "Asparagus", "93-97 FDA and % crop treated"
 262 "16004AA","3", 0.005  0.24  1  0 "Onions-green", ""
 263 "16007AA","O", 0.005  0.24  1  0 "Poke greens", ""
 264 "16008AA","O", 0.005  0.24  1  0 "Bamboo shoots", ""
 265 "24001AA","15", 0.005  0.24  1  0 "Barley", ""
 266 "24002EA","15", 0.00077  0.22  1  0 "Corn grain-endosperm", "Field trial"
 267 "24002HA","15", 0.00077  1  1  0 "Corn grain-bran", "Field trial"
 268 "24002SA","15", 0.00077  0.05  1  0 "Corn grain/sugar/hfcs", "Field trial"
 269 "24003AA","15", 0.005  0.24  1  0 "Oats", ""
 270 "24004AA","15", 0.005  0.24  1  0 "Rice-rough (brown)", ""
 271 "24004AB","15", 0.005  0.24  1  0 "Rice-milled (white)", ""
 272 "24005AA","15", 0.005  0.24  1  0 "Rye-rough", ""
 273 "24005GA","15", 0.005  0.24  1  0 "Rye-germ", ""
 274 "24005WA","15", 0.005  0.24  1  0 "Rye-flour", ""
 275 "24006AA","15", 0.005  0.24  1  0 "Sorghum (including milo)", ""
 276 "24007AA","15", 0.0032  0.86  1  4 "Wheat-rough", "PDP 1995-1997"
     11 Uncooked, 0.0032  0.86  1 "PDP 1995-1997"
     12 Cooked: NFS, 0.0032  0.86  1 "PDP 1995-1997"
     13 Baked, 0.0032  0.36  1 "PDP 1995-1997"
     14 Boiled, 0.0032  0.026  1 "PDP 1995-1997"
 277 "24007GA","15", 0.0032  2.7  1  0 "Wheat-germ", "PDP 1995-1997"
 278 "24007HA","15", 0.0032  3  1  0 "Wheat-bran", "PDP 1995-1997"
 279 "24007WA","15", 0.0032  0.145  1  14 "Wheat-flour", "PDP 1995-1997"
     11 Uncooked, 0.0032  0.145  1 "PDP 1995-1997"
     12 Cooked: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     13 Baked, 0.0032  0.145  1 "PDP 1995-1997"
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     14 Boiled, 0.0032  0.026  1 "PDP 1995-1997"
     15 Fried, 0.0032  0.145  1 "PDP 1995-1997"
     31 Canned: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     32 Canned: Cooked, 0.0032  0.145  1 "PDP 1995-1997"
     33 Canned: Baked, 0.0032  0.145  1 "PDP 1995-1997"
     34 Canned: Boiled, 0.0032  0.026  1 "PDP 1995-1997"
     41 Frozen: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     42 Frozen: Cooked, 0.0032  0.145  1 "PDP 1995-1997"
     43 Frozen: Baked, 0.0032  0.145  1 "PDP 1995-1997"
     45 Frozen: Fried, 0.0032  0.145  1 "PDP 1995-1997"
     52 Cured: Cooked(smokd/, 0.0032  0.145  1 "PDP 1995-1997"
 280 "24012AA","15", 0.005  0.24  1  0 "Millet", ""
 281 "25001AA","O", 0.005  0.24  1  0 "Honey", ""
 282 "25002SA","1A", 0.000628  1  1  1 "Sugar-beet", "PDP from Sweet Potato"
     98 Refined, 0.000628  0.1  1 "PDP from Sweet Potato"
 285 "25004SA","O", 0.005  0.24  1  0 "Maple sugar", ""
 286 "26001AA","15", 0.005  0.24  1  0 "Buckwheat", ""
 287 "26011AA","6C", 0.00025  1  1  0 "Guar beans", "Tolerance and % crop
treated"
 288 "27001OA","O", 0.005  0.24  1  0 "Castor beans", ""
 289 "27002OA","15", 0.00077  4.5  1  0 "Corn grain-oil", "Field trial"
 290 "27003OA","O", 0.0023  1  1  0 "Cottonseed-oil", "Field trial % crop
treated and processing factor."
 291 "27003WA","O", 0.005  0.24  1  0 "Cottonseed-meal", ""
 292 "27004AA","O", 0.005  0.24  1  0 "Flax seed", ""
 293 "27007OA","O", 0.001  2  1  0 "Peanuts-oil", "steve knizner 7/95 ar memo
for the processing fact"
 294 "27008AA","O", 0.005  0.24  1  0 "Safflower-seed", ""
 295 "27008OA","O", 0.005  0.24  1  0 "Safflower-oil", ""
 296 "27009OA","O", 0.005  0.24  1  0 "Sesame-oil", ""
 297 "27010OA","6A", 0.00032  0.14  1  0 "Soybeans-oil", "Knizner Memo.
Reduction factor."
 298 "27011OA","O", 0.00046  1  1  0 "Sunflower-oil", "knizner 7/95 memo"
 299 "27015OA","O", 0.005  0.24  1  0 "Coconut-oil", ""
 300 "27016OA","O", 0.005  0.24  1  0 "Olive oil", ""
 301 "27017OL","O", 0.005  0.24  1  0 "Canola oil (rape seed oil)", ""
 302 "27019OA","O", 0.005  0.24  1  0 "Palm oil", ""
 303 "15023AA","6A", 0.00032  1  1  0 "Soybean-other", "Knizner Memo."
 304 "28023AB","6A", 0.00032  1  1  0 "Soybeans-mature seeds dry", "Knizner
Memo."
 305 "28023WA","6A", 0.00032  1  1  0 "Soybeans-flour (full fat)", "Knizner
Memo."
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 306 "28023WB","6A", 0.00032  1  1  0 "Soybeans-flour (low fat)", "Knizner
Memo."
 307 "28023WC","6A", 0.00032  1  1  0 "Soybeans-flour (defatted)", "Knizner
Memo."
 308 "28024AB","O", 0.005  0.24  1  0 "Oriental vegetables/non-leafy", ""
 309 "28040AA","O", 0.005  0.24  1  0 "Seeds (misc.)", ""
 310 "28080AA","O", 0.005  0.24  1  0 "Peppermint", ""
 311 "28080OA","O", 1.52  1  1  0 "Peppermint-oil", "Tolerance of Hay, 10x CF,
percent crop treated"
 312 "28081AA","O", 0.005  0.24  1  0 "Spearmint", ""
 313 "28081OA","O", 1.52  1  1  0 "Spearmint-oil", "Hay tolerance x 10 CF x
percent crop treated"
 314 "43057AA","O", 0.005  0.24  1  0 "Vinegar", ""
 315 "43058AA","O", 0.00025  0.02  1  1 "Grapes-wine and sherry", "PDP
1994-1997"
     99 Alcohol/Fermented/Di, 0.00025  0.02  1 "PDP 1994-1997"
 316 "43059AA","O", 0.005  0.24  1  0 "Alcohol-distilled", ""
 317 "43060AA","O", 0.0002  1  1  0 "Gelatin", "from lean beef"
 321 "53001BA","M", 0.0002  0.5  1  0 "Beef-meat byproducts", "Registrants'
Market Basket Survey"
 322 "53001BB","M", 0.0002  0.5  1  0 "Beef-other organ meats", "Registrants'
Market Basket Survey"
 323 "53001DA","M", 0.0002  0.96  1  0 "Beef-dried", "Registrants' Market Basket
Survey"
 324 "53001FA","M", 0.001  0.5  1  0 "Beef-fat w/o bones", "Registrants' Market
Basket Survey"
 325 "53001KA","M", 0.0002  0.5  1  0 "Beef-kidney", "Registrants' Market Basket
Survey"
 326 "53001LA","M", 0.0002  0.5  1  0 "Beef-liver", "Registrants' Market Basket
Survey"
 327 "53001MA","M", 0.0002  0.5  1  0 "Beef-lean (fat/free) w/o bones",
"Registrants' Market Basket Survey"
 328 "53002BA","M", 0.0002  0.5  1  0 "Goat-meat byproducts", "Registrants'
Market Basket Survey"
 329 "53002BB","M", 0.0002  0.5  1  0 "Goat-other organ meats", "Registrants'
Market Basket Survey"
 330 "53002FA","M", 0.001  0.5  1  0 "Goat-fat w/o bone", "Registrants' Market
Basket Survey"
 331 "53002KA","M", 0.0002  0.5  1  0 "Goat-kidney", "Registrants' Market Basket
Survey"
 332 "53002LA","M", 0.0002  0.5  1  0 "Goat-liver", "Registrants' Market Basket
Survey"
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 333 "53002MA","M", 0.0002  0.5  1  0 "Goat-lean (fat/free) w/o bone",
"Registrants' Market Basket Survey"
 334 "53003AA","M", 0.0002  0.5  1  0 "Horsemeat", "Translated from Beef."
 336 "53005BA","M", 0.0002  0.5  1  0 "Sheep-meat byproducts", "Market Basket"
 337 "53005BB","M", 0.0002  0.5  1  0 "Sheep-other organ meats", "Market Basket"
 338 "53005FA","M", 0.001  0.5  1  0 "Sheep-fat w/o bone", "Market Basket"
 339 "53005KA","M", 0.0002  0.5  1  0 "Sheep-kidney", "Market Basket"
 340 "53005LA","M", 0.0002  0.5  1  0 "Sheep-liver", "Market Basket"
 341 "53005MA","M", 0.0002  0.5  1  0 "Sheep-lean (fat free) w/o bone", "Market
Basket"
 342 "53006BA","M", 0.0001  0.5  1  0 "Pork-meat byproducts", "Pork Sausage"
 343 "53006BB","M", 0.0001  0.5  1  0 "Pork-other organ meats", "Pork Sausage"
 344 "53006FA","M", 0.0005  0.5  1  0 "Pork-fat w/o bone", "Pork Sausage"
 345 "53006KA","M", 0.0001  0.5  1  0 "Pork-kidney", "Pork Sausage"
 346 "53006LA","M", 0.0001  0.5  1  0 "Pork-liver", "Pork Sausage"
 347 "53006MA","M", 0.0001  0.5  1  0 "Pork-lean (fat free) w/o bone", "Pork
Sausage"
 349 "53013AA","F", 0.005  0.24  1  0 "Fish-shellfish", ""
 350 "53014AA","O", 0.005  0.24  1  0 "Meat-game", ""
 351 "53015AA","F", 0.005  0.24  1  0 "Fish-roe/caviar", ""
 352 "53016AA","F", 0.005  0.24  1  0 "Fish-finfish/freshwater", ""
 353 "53017AA","F", 0.005  0.24  1  0 "Fish-finfish/saltwater (incl. tuna)", ""
 354 "53017DA","F", 0.005  0.24  1  0 "Fish-finfish-saltwater-dried", ""
 355 "55008BA","P", 0.000002  0.5  1  0 "Turkey-byproducts", "Dietary Burden
Calculation"
 356 "55008LA","P", 0.000002  0.5  1  0 "Turkey-giblets (liver)", "Dietary
Burden Calculation"
 357 "55008MA","P", 0.000027  0.5  1  0 "Turkey--fat w/o bones", "Dietary Burden
Calculation"
 358 "55008MB","P", 0.000002  0.5  1  0 "Turkey- lean/fat free w/o bones",
"Dietary Burden Calculation"
 360 "55013BA","P", 0.000002  0.5  1  0 "Poultry-other-lean (fat free) w/o
bone", "dietary burden"
 361 "55013LA","P", 0.000002  0.5  1  0 "Poultry-other-giblets(liver)", "dietary
burden"
 362 "55013MA","P", 0.000027  0.5  1  0 "Poultry-other-fat w/o bones", "dietary
burden"
 363 "55014AA","P", 0.000004  1  1  0 "Eggs-whole", "Dietary Burden"
 364 "55014AB","P", 0.000004  1  1  0 "Eggs-white only", "Dietary Burden"
 365 "55014AC","P", 0.000004  1  1  0 "Eggs-yolk only", "Dietary Burden"
 366 "55015BA","P", 0.000002  0.5  1  0 "Chicken-byproducts", "Dietary Burden
Calculations"
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 367 "55015LA","P", 0.000002  0.5  1  0 "Chicken-giblets(liver)", "Dietary
Burden Calculations"
 368 "55015MA","P", 0.000027  0.5  1  0 "Chicken-fat w/o bones", "Dietary Burden
Calculations"
 369 "55015MB","P", 0.000002  0.5  1  0 "Chicken-lean/fat free w/o bones",
"Dietary Burden Calculations"
 376 "18000JA","O", 0.005  0.24  1  0 "Aloe vera-juice", ""
 377 "04001JC","11", 0.000052  3  1  4 "Apples-juice-concentrate", "PDP 94-96
with 44% crop treated"
     12 Cooked: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     13 Baked, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     31 Canned: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     41 Frozen: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
 378 "06002NA","O", 0.00039  1  1  0 "Bananas-juice", ""
 379 "25002MO","1A", 0.000628  1  1  1 "Sugar-beet-molasses", "PDP from Sweet
Potato"
     98 Refined, 0.000628  1  1 "PDP from Sweet Potato "
 380 "01002JA","13A", 0.005  0.24  1  0 "Blackberries-juice", ""
 381 "08031AA","19B", 0.005  0.24  1  0 "Pepper/black", ""
 382 "14022AA","1AB", 0.005  0.24  1  0 "Burdock", ""
 383 "13007SA","5B", 0.00136  1  1  0 "Cabbage-savoy", "FDA data"
 384 "13002JA","4B", 0.005  0.24  1  0 "Celery juice", ""
 385 "55015EL","P", 0.000002  0.5  1  0 "Chicken-giblets (excl. liver)",
"Dietary Burden Calculations"
 386 "19000AA","9B", 0.005  0.24  1  0 "Christophine", ""
 387 "06003MK","O", 0.005  0.24  1  0 "Coconut-milk", ""
 388 "24002MO","15", 0.00077  0.05  1  0 "Corn grain/sugar-molasses", "Field
trial"
 389 "01010JC","O", 0.0202  1  1  0 "Cranberries-juice-concentrate", "Cranberry
Institute data"
 390 "13064AA","O", 0.005  0.24  1  0 "Fern shoots (fiddleheads)", ""
 392 "01014JC","O", 0.00025  0.9  1  5 "Grapes-juice-concentrate", "PDP
1994-1997"
     12 Cooked: NFS, 0.00025  0.9  1 "PDP 1994-1997"
     13 Baked, 0.00025  0.9  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.9  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  0.9  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  0.9  1 "PDP 1994-1997"
 393 "06006NA","O", 0.005  0.24  1  0 "Guava-juice", ""
 394 "06051AA","O", 0.005  0.24  1  0 "Jackfruit", ""
 395 "19001AA","O", 0.005  0.24  1  0 "Jobo", ""
 396 "14025AA","O", 0.005  0.24  1  0 "Lotus root", ""
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 397 "10018AA","9B", 0.005  0.24  1  0 "Okra/chinese (luffa)", ""
 399 "24003BR","15", 0.005  0.24  1  0 "Oats-bran", ""
 400 "19002AA","O", 0.005  0.24  1  0 "Palm hearts", ""
 401 "06014NA","O", 0.005  0.24  1  0 "Passion fruit-juice", ""
 402 "05004JA","12", 0.0011  1  1  2 "Peaches-juice", "PDP"
     11 Uncooked, 0.0011  1  1 "PDP"
     31 Canned: NFS, 0.0011  1  1 "PDP"
 403 "15006BT","O", 0.0051  1  1  2 "Peanuts-butter", "market basket"
     13 Baked, 0.0051  1  1 "market basket"
     14 Boiled, 0.0051  1  1 "market basket"
 404 "04003NA","11", 0.00066  0.15  1  0 "Pears-juice", "1997 PDP"
 405 "15008AA","6B", 0.000033  1  1  0 "Peas-succulent/blackeye/cowpea", "PDP
1996"
 406 "06013JC","O", 0.005  0.24  1  0 "Pineapples-juice-concentrate", ""
 407 "14023AA","1AB", 0.0043  1  1  0 "Radishes-japanese (daiken)", "FDA"
 408 "24004BR","15", 0.005  0.24  1  0 "Rice-bran", ""
 409 "24013AA","15", 0.005  0.24  1  0 "Rice-wild", ""
 410 "05001JA","12", 0.005  0.24  1  0 "Apricot juice", ""
 411 "13065AA","O", 0.005  0.24  1  0 "Seaweed", ""
 412 "10032AA","O", 0.005  0.24  1  0 "Sequin (portuguese squash)", ""
 413 "15009AB","6A", 0.000033  1  1  0 "Snowpeas", "PDP 1996"
 414 "06024NA","O", 0.005  0.24  1  0 "Soursop-juice", ""
 415 "10019AA","9B", 0.005  0.24  1  0 "Squash-spaghetti", ""
 416 "01016JA","O", 0.00021  0.3  1  0 "Strawberries-juice", "FDA data"
 417 "15018HA","O", 0.00046  1  1  0 "Sunflower-seeds", "acute AR * 1% crop
treated"
 418 "14018LV","2", 0.0011  1  1  0 "Sweet potatos-leaves", "PDP 1994-1997"
 419 "08039AA","O", 0.005  0.24  1  0 "Tamarind", ""
 420 "02008JC","10", 0.00022  3.2  1  0 "Tangerines-juice-concentrate", "market
basket"
 422 "13066LA","O", 0.005  0.24  1  0 "Thistle leaves", ""
 431 "030090L","14", 0.015  1  1  0 "Walnut oil", "Field trials from Walnuts and
Almonds"
 436 "10008JA","9A", 0.005  0.24  1  0 "Watermelon-juice", ""
 437 "24007OL","15", 0.0032  2.7  1  0 "Wheat-germ oil", "PDP 1995-1997"
 438 "20000AA","O", 0.005  0.24  1  0 "Wi-apple", ""
 439 "10021AA","9B", 0.005  0.24  1  0 "Wintermelon", ""
 440 "20001AA","O", 0.005  0.24  1  0 "Yeast", ""
 441 "02002JC","10", 0.000165  3.93  1  0 "Grapefruit-juice-concentrate",
"market basket"
 442 "02004JC","10", 0.00041  5.7  1  0 "Lemons-juice-concentrate", "market
basket"
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 443 "02005JC","10", 0.00022  3  1  0 "Limes-juice-concentrate", "market basket"
 447 "No Code","4A", 0.005  0.24  1  0 "Chervil", ""
 448 "02002HA","10", 0.00055  8  1  0 "Grapefruit peel", "Translated from
oranges"
 449 "No Code","P", 0.000002  0.5  1  0 "Turkey-other organ meats", "Dietary
Burden Calculation"
 450 "No Code","1AB", 0.005  0.24  1  0 "Ginseng", ""
 451 "No Code","5A", 0.00122  1  1  0 "Broccoli-chinese", "PDP 94 from broccoli"
 452 "No Code","5B", 0.0015  1  1  0 "Bok choy", "FDA data"
 460 "No Code","O", 0.005  0.24  1  0 "Seafood-misc(turtle/frog)", ""
 467 "08010AA","19B", 0.005  0.24  1  0 "Celery seed", ""
 473 "26014AA","O", 0.005  0.24  1  0 "Sapodilla", ""
 480 "06016GA","O", 0.00039  1  1  0 "Plantains-green", ""
 481 "06016DA","O", 0.00039  3.9  1  0 "Plantains-dried", ""
 482 "No Code","O", 0.00032  1  1  0 "Soybeans-protein isolate", "Knizner Memo."
 483 "No Code","O", 0.005  0.24  1  0 "Chayote", ""
 484 "No Code","O", 0.0043  1  1  0 "Radishes-oriental", "FDA"
 485 "No Code","O", 0.005  0.24  1  0 "Leaves (misc)", ""
 489 "No Code","O", 0.005  0.24  1  0 "Vanilla", ""
 491 "No Code","O", 0.005  0.24  1  0 "Arugula", ""
 492 "No Code","O", 0.005  0.24  1  0 "Radicchio", ""
 493 "No Code","O", 0.005  0.24  1  0 "Tarragon", ""
 494 "No Code","O", 0.005  0.24  1  0 "Saffron", ""
 495 "No Code","O", 0.005  0.24  1  0 "Cilantro", ""
 496 "No Code","O", 0.005  0.24  1  0 "Nopales", ""
 497 "No Code","9B", 0.005  0.24  1  0 "Balsam pear", ""
 498 "No Code","4A", 0.005  0.24  1  0 "Amaranth", ""
 890 "No Code","O", 0.005  0.24  1  0 "Miscellaneous/nfs", ""
 891 "No Code","O", 0.005  0.24  1  0 "Jute", ""
 892 "No Code","O", 0.005  0.24  1  0 "Chrysanthemum", ""
 893 "No Code","O", 0.005  0.24  1  0 "Salt", ""
 894 "No Code","O", 0.005  0.24  1  0 "Leavening agents", ""
 895 "No Code","O", 0.005  0.24  1  0 "Psyllium", ""
 896 "No Code","O", 0.005  0.24  1  0 "Sweeteners-artificial", ""
 897 "No Code","O", 0.005  0.24  1  0 "Gums/gels", ""
 911 "No Code","O", 0.005  0.24  1  0 "Molasses-nfs", ""
 940 "No Code","O", 0.001  1  1  0 "Peanuts-hulled", "FDA and 10 % CT"
```

Attachment 2.c. DEEM File for Chronic Analysis Including Violative Residues on Carrots, Spinach and Squash

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"Chlorpyrifos"
 0.00003
NEWD, 0.005
NOEL,          0.03  0.5  0
06-15-2000/12:50:58
-1  "This is for chronic dietary exposure analysis."
 999  0
 8 "01010AA","O", 0.0202  1  1  0 "Cranberries", "Cranberry Institute data"
 9 "01010JA","O", 0.0202  0.3  1  0 "Cranberries-juice", "Cranberry Institute
data"
 13 "01014AA","O", 0.00025  1  1  4 "Grapes", "PDP 1994-1997"
     11 Uncooked, 0.00025  1  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  1  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  1  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  1  1 "PDP 1994-1997"
 14 "01014DA","O", 0.00025  0.17  1  6 "Grapes-raisins", "PDP 1994-1997"
     11 Uncooked, 0.00025  0.17  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  0.17  1 "PDP 1994-1997"
     13 Baked, 0.00025  0.17  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.17  1 "PDP 1994-1997"
     18 Dried, 0.00025  0.17  1 "PDP 1994-1997"
     42 Frozen: Cooked, 0.00025  0.17  1 "PDP 1994-1997"
 15 "01014JA","O", 0.00025  0.3  1  6 "Grapes-juice", "PDP 1994-1997"
     11 Uncooked, 0.00025  0.3  1 "PDP 1994-1997"
     12 Cooked: NFS, 0.00025  0.3  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.3  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  0.3  1 "PDP 1994-1997"
     34 Canned: Boiled, 0.00025  0.3  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  0.3  1 "PDP 1994-1997"
 17 "01016AA","O", 0.00021  1  1  0 "Strawberries", "FDA data"
 20 "02001AA","10", 0.00073  1  1  0 "Citrus citron", "PDP translated from
oranges"
 22 "02002AB","10", 0.00055  1  1  0 "Grapefruit-peeled fruit", "Translated from
oranges"
 23 "02002JA","10", 0.000165  1  1  0 "Grapefruit-juice", "market basket"
 24 "02003AA","10", 0.00073  1  1  0 "Kumquats", "Translated from oranges"
 26 "02004AB","10", 0.0014  1  1  0 "Lemons-peeled fruit", "PDP from orange "
 27 "02004HA","10", 0.0014  15  1  0 "Lemons-peel", "PDP from orange "
 28 "02004JA","10", 0.00041  1  1  0 "Lemons-juice", "market basket"
 30 "02005AB","10", 0.00073  1  1  0 "Limes-peeled fruit", "PDP from oranges"
```

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 31 "02005HA","10", 0.00073  15  1  0 "Limes-peel", "PDP from oranges"
 32 "02005JA","10", 0.00022  1  1  0 "Limes-juice", "market basket"
 33 "02006JC","10", 0.00012  3.72  1  0 "Oranges-juice-concentrate", "market
basket"
 34 "02006AB","10", 0.0012  1  1  3 "Oranges-peeled fruit", "PDP"
     11 Uncooked, 0.0012  1  1 "PDP"
     12 Cooked: NFS, 0.0012  1  1 "PDP"
     31 Canned: NFS, 0.0005  1  1 "PDP"
 35 "02006HA","10", 0.0012  15  1  4 "Oranges-peel", "PDP"
     11 Uncooked, 0.0012  15  1 "PDP"
     12 Cooked: NFS, 0.0012  15  1 "PDP"
     31 Canned: NFS, 0.0005  15  1 "PDP"
     41 Frozen: NFS, 0.0005  15  1 "PDP"
 36 "02006JA","10", 0.00012  1  1  0 "Oranges-juice", "market basket"
 37 "02007AA","10", 0.00073  1  1  0 "Tangelos", "PDP from Oranges"
 38 "02008AA","10", 0.00073  1  1  0 "Tangerines", "PDP from Oranges"
 39 "02008JA","10", 0.00022  1  1  0 "Tangerines-juice", "market basket"
 40 "03001AA","14", 0.01  1  1  0 "Almonds", "Field trials from Walnuts and
Almonds"
 44 "03005AA","14", 0.003  1  1  0 "Filberts (hazelnuts)", "Field trials from
Walnuts and Almonds"
 46 "03007AA","14", 0.003  1  1  0 "Macadamia nuts (bush nuts)", "Field trials
from Walnuts and Almonds"
 47 "03008AA","14", 0.014  1  1  0 "Pecans", "Field trials from Walnuts and
Almonds"
 48 "03009AA","14", 0.015  1  1  0 "Walnuts", "Field trials from Walnuts and
Almonds"
 52 "04001AA","11", 0.00049  1  1  11 "Apples", "PDP"
     11 Uncooked, 0.00049  1  1 "PDP"
     12 Cooked: NFS, 0.00049  0.15  1 "PDP"
     13 Baked, 0.00049  0.15  1 "PDP"
     14 Boiled, 0.00013  1  1 "market basket"
     15 Fried, 0.00049  0.15  1 "PDP"
     18 Dried, 0.00049  1.2  1 "PDP"
     31 Canned: NFS, 0.00013  1  1 "market basket"
     32 Canned: Cooked, 0.00013  1  1 "market basket"
     33 Canned: Baked, 0.00013  1  1 "market basket"
     34 Canned: Boiled, 0.00013  1  1 "market basket"
     42 Frozen: Cooked, 0.0005  1  1 "market basket"
 53 "04001DA","11", 0.00049  1.2  1  4 "Apples-dried", "PDP 94-96 with 44% crop
treated"
     13 Baked, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
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    14 Boiled, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
    18 Dried, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
    42 Frozen: Cooked, 0.00049  1.2  1 "PDP 94-96 with 44% crop treated"
 54 "04001JA","11", 0.000052  1  1  5 "Apples-juice/cider", "PDP 94-96 with 44%
crop treated"
    11 Uncooked, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    12 Cooked: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    14 Boiled, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    31 Canned: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
    41 Frozen: NFS, 0.000052  1  1 "PDP 94-96 with 44% crop treated"
 56 "04003AA","11", 0.00066  1  1  5 "Pears", "1997 PDP"
    11 Uncooked, 0.00066  1  1 "1997 PDP"
    12 Cooked: NFS, 0.00066  0.15  1 "1997 PDP"
    13 Baked, 0.00066  0.15  1 "1997 PDP"
    14 Boiled, 0.00066  0.15  1 "1997 PDP"
    31 Canned: NFS, 0.00066  0.15  1 "1997 PDP"
 57 "04003DA","11", 0.00066  0.94  1  3 "Pears-dried", "1997 PDP"
    13 Baked, 0.00066  0.94  1 "1997 PDP"
    14 Boiled, 0.00066  0.94  1 "1997 PDP"
    18 Dried, 0.00066  0.94  1 "1997 PDP"
 61 "05002AA","12", 0.0012  1  1  0 "Cherries", "FDA"
 62 "05002DA","12", 0.0012  4  1  0 "Cherries-dried", "FDA"
 63 "05002JA","12", 0.0012  0.3  1  4 "Cherries-juice", "FDA"
    13 Baked, 0.0012  0.3  1 "FDA"
    14 Boiled, 0.0012  0.3  1 "FDA"
    31 Canned: NFS, 0.0012  0.3  1 "FDA"
    41 Frozen: NFS, 0.0012  0.3  1 "FDA"
 64 "05003AA","12", 0.00073  1  1  1 "Nectarines", "PDP Peaches"
    11 Uncooked, 0.00073  1  1 "PDP Peaches"
 65 "05004AA","12", 0.0011  1  1  6 "Peaches", "PDP"
    11 Uncooked, 0.0011  1  1 "PDP"
    12 Cooked: NFS, 0.0011  1  1 "PDP"
    13 Baked, 0.0011  1  1 "PDP"
    14 Boiled, 0.0011  1  1 "PDP"
    31 Canned: NFS, 0.000275  1  1 "PDP 1997 canned"
    41 Frozen: NFS, 0.000275  1  1 "PDP 1997 canned"
 66 "05004DA","12", 0.0011  7  1  0 "Peaches-dried", "PDP"
 67 "05005AA","12", 0.00046  1  1  5 "Plums (damsons)", "PDP from peaches"
    11 Uncooked, 0.00046  1  1 "PDP from peaches"
    12 Cooked: NFS, 0.00046  1  1 "PDP from peaches"
    31 Canned: NFS, 0.000125  1  1 "PDP from canned peaches"
    42 Frozen: Cooked, 0.000125  1  1 "PDP from canned peaches"
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    51 Cured: NFS (smoked/p, 0.000125  1  1 "PDP from canned peaches"
 68 "05005DA","12", 0.00046  5  1  0 "Plums-prunes (dried)", "PDP from peaches"
 69 "05005JA","12", 0.00046  1.4  1  0 "Plums/prune-juice", "PDP from peaches"
 72 "06002AB","O", 0.00039  1  1  0 "Bananas", ""
 73 "06002DA","O", 0.00039  3.9  1  0 "Bananas-dried", ""
 78 "06005AA","O", 0.0001  1  1  0 "Figs", "tolerance and 1% crop treated"
 94 "06016AA","O", 0.00039  1  1  0 "Plantains-ripe", ""
 97 "06018AA","O", 0.0213  0.15  1  0 "Kiwi fruit", "FDA"
148 "10010AA","9B", 0.000198  1  1  0 "Cucumbers", "FDA data"
149 "10011AA","9B", 0.000198  1  1  0 "Pumpkin", "Translated from Cucumbers"
150 "10013AA","9B", 0.00003  1  1  0 "Squash-summer", ""
151 "10014AA","9B", 0.00003  1  1  0 "Squash-winter", ""
155 "11003AA","8", 0.0083  1  1  0 "Peppers-sweet(garden)", "FDA "
156 "11003AB","8", 0.0083  1  1  0 "Peppers-chilli incl jalapeno", "FDA "
157 "11003AD","8", 0.0083  1  1  0 "Peppers-other", "FDA "
168 "13005AA","5A", 0.00122  1  1  0 "Broccoli", "PDP 94"
169 "13006AA","5A", 0.00217  1  1  0 "Brussels sprouts", "PDP 94 from broccoli"
170 "13007AA","5A", 0.00136  1  1  0 "Cabbage-green and red", "FDA data"
171 "13008AA","5A", 0.000046  1  1  0 "Cauliflower", "FDA"
172 "13009AA","5B", 0.0015  1  1  0 "Collards", "FDA"
174 "13011AA","5B", 0.006  1  1  0 "Kale", "FDA"
175 "13012AA","5A", 0.0015  1  1  0 "Kohlrabi", "collards"
183 "13021AA","5B", 0.0015  1  1  0 "Mustard greens", "collards"
186 "13024AA","4A", 0.00054  1  1  0 "Spinach", ""
188 "13026AA","2", 0.0015  1  1  0 "Turnips-tops", "Sweet Potato data"
195 "13049AA","O", 0.00025  1.5  1  1 "Grapes-leaves", "PDP 1994-1997"
    14 Boiled, 0.00025  1.5  1 "PDP 1994-1997"
198 "14003AA","1AB", 0.0001  1  1  0 "Carrots", ""
205 "14011AA","3", 0.00002  1  1  0 "Onions-dry-bulb (cipollini)", "1992 - 1997
FDA and 13% crop treated"
206 "14011DA","3", 0.00002  9  1  0 "Onions-dehydrated or dried", ""
212 "14014AA","1AB", 0.0043  1  1  0 "Radishes-roots", "FDA"
213 "14014AB","2", 0.0015  1  1  0 "Radishes-tops", "PDP from sweet potato"
214 "14015AA","1AB", 0.0011  1  1  0 "Rutabagas-roots", "PDP from sweet potato"
218 "14018AA","1CD", 0.0011  1  1  6 "Sweet potatoes (incl yams)", "PDP
1994-1997"
    12 Cooked: NFS, 0.0011  1  1 "PDP 1994-1997"
    13 Baked, 0.0011  1  1 "PDP 1994-1997"
    14 Boiled, 0.0011  1  1 "PDP 1994-1997"
    15 Fried, 0.0011  1  1 "PDP 1994-1997"
    32 Canned: Cooked, 0.0011  0.15  1 "PDP 1994-1997"
    34 Canned: Boiled, 0.0011  0.15  1 "PDP 1994-1997"
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 219 "14019AA","1AB", 0.0011  1  1  0 "Turnips-roots", "Sweet Potato data"
 227 "15001AA","6C", 0.00025  1  1  0 "Beans-dry-great northern", "1/2Tolerance
and % crop treated"
 228 "15001AB","6C", 0.00025  1  1  0 "Beans-dry-kidney", "1/2Tolerance and %
crop treated"
 229 "15001AC","6C", 0.00025  1  1  0 "Beans-dry-lima", "1/2Tolerance and % crop
treated"
 230 "15001AD","6C", 0.00025  1  1  0 "Beans-dry-navy (pea)", "1/2Tolerance and
% crop treated"
 231 "15001AE","6C", 0.00025  1  1  0 "Beans-dry-other", "1/2Tolerance and %
crop treated"
 232 "15001AF","6C", 0.00025  1  1  0 "Beans-dry-pinto", "1/2Tolerance and %
crop treated"
 233 "15002AA","6B", 0.000032  1  1  0 "Beans-succulent-lima", "PDP and % crop
treated"
 234 "15003AA","6A", 0.000032  1  1  0 "Beans-succulent-green", "PDP 96 and 97"
 235 "15003AB","6A", 0.000032  1  1  0 "Beans-succulent-other", "PDP and % crop
treated"
 236 "15003AC","6A", 0.000032  1  1  0 "Beans-succulent-yellow/wax", "PDP and %
crop treated"
 240 "15007AA","6C", 0.00025  1  1  0 "Peas (garden)-dry", "1/2Tolerance and %
crop treated"
 241 "15009AA","6AB", 0.000033  1  1  0 "Peas (garden)-green", "PDP 1996"
 243 "15011AB","6C", 0.00025  1  1  0 "Lentils", "Tolerance and % crop treated"
 244 "15013AA","6C", 0.00025  1  1  0 "Mung beans (sprouts)", "from beans"
 249 "15022AA","6C", 0.00025  1  1  0 "Beans-dry-broadbeans", "1/2Tolerance and
% crop treated"
 250 "15022AB","6B", 0.000032  1  1  0 "Beans-succulent-broadbeans", "PDP and %
crop treated"
 251 "15023AA","6C", 0.00025  1  1  0 "Beans-dry-pigeon beans", "1/2Tolerance
and % crop treated"
 253 "15027AA","6", 0.000032  1  1  0 "Beans-unspecified", "PDP and % crop
treated"
 255 "15029AA","6A", 0.00032  0.33  1  0 "Soybeans-sprouted seeds", "Knizner
Memo."
 256 "15030AA","6C", 0.00025  1  1  0 "Beans-dry-hyacinth", "1/2Tolerance and %
crop treated"
 257 "15030AB","6", 0.000032  1  1  0 "Beans-succulent-hyacinth", "PDP and %
crop treated"
 258 "15031AA","6C", 0.00025  1  1  0 "Beans-dry-blackeye peas/cowpea",
"1/2Tolerance and % crop treated"
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 259 "15032AA","6C", 0.00025  1  1  0 "Beans-dry-garbanzo/chick pea",
"1/2Tolerance and % crop treated"
 260 "16002AA","O", 0.00313  1  1  0 "Asparagus", "93-97 FDA and % crop treated"
 266 "24002EA","15", 0.00077  0.22  1  0 "Corn grain-endosperm", "Field trial"
 267 "24002HA","15", 0.00077  1  1  0 "Corn grain-bran", "Field trial"
 268 "24002SA","15", 0.00077  0.05  1  0 "Corn grain/sugar/hfcs", "Field trial"
 276 "24007AA","15", 0.0032  0.86  1  4 "Wheat-rough", "PDP 1995-1997"
     11 Uncooked, 0.0032  0.86  1 "PDP 1995-1997"
     12 Cooked: NFS, 0.0032  0.86  1 "PDP 1995-1997"
     13 Baked, 0.0032  0.36  1 "PDP 1995-1997"
     14 Boiled, 0.0032  0.026  1 "PDP 1995-1997"
 277 "24007GA","15", 0.0032  2.7  1  0 "Wheat-germ", "PDP 1995-1997"
 278 "24007HA","15", 0.0032  3  1  0 "Wheat-bran", "PDP 1995-1997"
 279 "24007WA","15", 0.0032  0.145  1  14 "Wheat-flour", "PDP 1995-1997"
     11 Uncooked, 0.0032  0.145  1 "PDP 1995-1997"
     12 Cooked: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     13 Baked, 0.0032  0.145  1 "PDP 1995-1997"
     14 Boiled, 0.0032  0.026  1 "PDP 1995-1997"
     15 Fried, 0.0032  0.145  1 "PDP 1995-1997"
     31 Canned: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     32 Canned: Cooked, 0.0032  0.145  1 "PDP 1995-1997"
     33 Canned: Baked, 0.0032  0.145  1 "PDP 1995-1997"
     34 Canned: Boiled, 0.0032  0.026  1 "PDP 1995-1997"
     41 Frozen: NFS, 0.0032  0.145  1 "PDP 1995-1997"
     42 Frozen: Cooked, 0.0032  0.145  1 "PDP 1995-1997"
     43 Frozen: Baked, 0.0032  0.145  1 "PDP 1995-1997"
     45 Frozen: Fried, 0.0032  0.145  1 "PDP 1995-1997"
     52 Cured: Cooked(smokd/, 0.0032  0.145  1 "PDP 1995-1997"
 282 "25002SA","1A", 0.000628  1  1  1 "Sugar-beet", "PDP from Sweet Potato"
     98 Refined, 0.000628  0.1  1 "PDP from Sweet Potato"
 287 "26011AA","6C", 0.00025  1  1  0 "Guar beans", "Tolerance and % crop
treated"
 289 "27002OA","15", 0.00077  4.5  1  0 "Corn grain-oil", "Field trial"
 290 "27003OA","O", 0.0023  1  1  0 "Cottonseed-oil", "Field trial % crop
treated and processing factor."
 293 "27007OA","O", 0.001  2  1  0 "Peanuts-oil", "steve knizner 7/95 ar memo
for the processing fact"
 297 "27010OA","6A", 0.00032  0.14  1  0 "Soybeans-oil", "Knizner Memo.
Reduction factor."
 298 "27011OA","O", 0.00046  1  1  0 "Sunflower-oil", "knizner 7/95 memo"
 303 "15023AA","6A", 0.00032  1  1  0 "Soybean-other", "Knizner Memo."
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 304 "28023AB","6A", 0.00032  1  1  0 "Soybeans-mature seeds dry", "Knizner
Memo."
 305 "28023WA","6A", 0.00032  1  1  0 "Soybeans-flour (full fat)", "Knizner
Memo."
 306 "28023WB","6A", 0.00032  1  1  0 "Soybeans-flour (low fat)", "Knizner
Memo."
 307 "28023WC","6A", 0.00032  1  1  0 "Soybeans-flour (defatted)", "Knizner
Memo."
 311 "28080OA","O", 1.52  1  1  0 "Peppermint-oil", "Tolerance of Hay, 10x CF,
percent crop treated"
 313 "28081OA","O", 1.52  1  1  0 "Spearmint-oil", "Hay tolerance x 10 CF x
percent crop treated"
 315 "43058AA","O", 0.00025  0.02  1  1 "Grapes-wine and sherry", "PDP
1994-1997"
     99 Alcohol/Fermented/Di, 0.00025  0.02  1 "PDP 1994-1997"
 317 "43060AA","O", 0.0002  1  1  0 "Gelatin", "from lean beef"
 321 "53001BA","M", 0.0002  0.5  1  0 "Beef-meat byproducts", "Registrants'
Market Basket Survey"
 322 "53001BB","M", 0.0002  0.5  1  0 "Beef-other organ meats", "Registrants'
Market Basket Survey"
 323 "53001DA","M", 0.0002  0.96  1  0 "Beef-dried", "Registrants' Market Basket
Survey"
 324 "53001FA","M", 0.001  0.5  1  0 "Beef-fat w/o bones", "Registrants' Market
Basket Survey"
 325 "53001KA","M", 0.0002  0.5  1  0 "Beef-kidney", "Registrants' Market Basket
Survey"
 326 "53001LA","M", 0.0002  0.5  1  0 "Beef-liver", "Registrants' Market Basket
Survey"
 327 "53001MA","M", 0.0002  0.5  1  0 "Beef-lean (fat/free) w/o bones",
"Registrants' Market Basket Survey"
 328 "53002BA","M", 0.0002  0.5  1  0 "Goat-meat byproducts", "Registrants'
Market Basket Survey"
 329 "53002BB","M", 0.0002  0.5  1  0 "Goat-other organ meats", "Registrants'
Market Basket Survey"
 330 "53002FA","M", 0.001  0.5  1  0 "Goat-fat w/o bone", "Registrants' Market
Basket Survey"
 331 "53002KA","M", 0.0002  0.5  1  0 "Goat-kidney", "Registrants' Market Basket
Survey"
 332 "53002LA","M", 0.0002  0.5  1  0 "Goat-liver", "Registrants' Market Basket
Survey"
 333 "53002MA","M", 0.0002  0.5  1  0 "Goat-lean (fat/free) w/o bone",
"Registrants' Market Basket Survey"
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 334 "53003AA","M", 0.0002  0.5  1  0 "Horsemeat", "Translated from Beef."
 336 "53005BA","M", 0.0002  0.5  1  0 "Sheep-meat byproducts", "Market Basket"
 337 "53005BB","M", 0.0002  0.5  1  0 "Sheep-other organ meats", "Market Basket"
 338 "53005FA","M", 0.001  0.5  1  0 "Sheep-fat w/o bone", "Market Basket"
 339 "53005KA","M", 0.0002  0.5  1  0 "Sheep-kidney", "Market Basket"
 340 "53005LA","M", 0.0002  0.5  1  0 "Sheep-liver", "Market Basket"
 341 "53005MA","M", 0.0002  0.5  1  0 "Sheep-lean (fat free) w/o bone", "Market
Basket"
 342 "53006BA","M", 0.0001  0.5  1  0 "Pork-meat byproducts", "Pork Sausage"
 343 "53006BB","M", 0.0001  0.5  1  0 "Pork-other organ meats", "Pork Sausage"
 344 "53006FA","M", 0.0005  0.5  1  0 "Pork-fat w/o bone", "Pork Sausage"
 345 "53006KA","M", 0.0001  0.5  1  0 "Pork-kidney", "Pork Sausage"
 346 "53006LA","M", 0.0001  0.5  1  0 "Pork-liver", "Pork Sausage"
 347 "53006MA","M", 0.0001  0.5  1  0 "Pork-lean (fat free) w/o bone", "Pork
Sausage"
 355 "55008BA","P", 0.000002  0.5  1  0 "Turkey-byproducts", "Dietary Burden
Calculation"
 356 "55008LA","P", 0.000002  0.5  1  0 "Turkey-giblets (liver)", "Dietary
Burden Calculation"
 357 "55008MA","P", 0.000027  0.5  1  0 "Turkey--fat w/o bones", "Dietary Burden
Calculation"
 358 "55008MB","P", 0.000002  0.5  1  0 "Turkey- lean/fat free w/o bones",
"Dietary Burden Calculation"
 360 "55013BA","P", 0.000002  0.5  1  0 "Poultry-other-lean (fat free) w/o
bone", "dietary burden"
 361 "55013LA","P", 0.000002  0.5  1  0 "Poultry-other-giblets(liver)", "dietary
burden"
 362 "55013MA","P", 0.000027  0.5  1  0 "Poultry-other-fat w/o bones", "dietary
burden"
 363 "55014AA","P", 0.000004  1  1  0 "Eggs-whole", "Dietary Burden"
 364 "55014AB","P", 0.000004  1  1  0 "Eggs-white only", "Dietary Burden"
 365 "55014AC","P", 0.000004  1  1  0 "Eggs-yolk only", "Dietary Burden"
 366 "55015BA","P", 0.000002  0.5  1  0 "Chicken-byproducts", "Dietary Burden
Calculations"
 367 "55015LA","P", 0.000002  0.5  1  0 "Chicken-giblets(liver)", "Dietary
Burden Calculations"
 368 "55015MA","P", 0.000027  0.5  1  0 "Chicken-fat w/o bones", "Dietary Burden
Calculations"
 369 "55015MB","P", 0.000002  0.5  1  0 "Chicken-lean/fat free w/o bones",
"Dietary Burden Calculations"
 377 "04001JC","11", 0.000052  3  1  4 "Apples-juice-concentrate", "PDP 94-96
with 44% crop treated"
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     12 Cooked: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     13 Baked, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     31 Canned: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
     41 Frozen: NFS, 0.000052  3  1 "PDP 94-96 with 44% crop treated"
 378 "06002NA","O", 0.00039  1  1  0 "Bananas-juice", ""
 379 "25002MO","1A", 0.000628  1  1  1 "Sugar-beet-molasses", "PDP from Sweet
Potato"
     98 Refined, 0.000628  1  1 "PDP from Sweet Potato "
 383 "13007SA","5B", 0.00136  1  1  0 "Cabbage-savoy", "FDA data"
 385 "55015EL","P", 0.000002  0.5  1  0 "Chicken-giblets (excl. liver)",
"Dietary Burden Calculations"
 388 "24002MO","15", 0.00077  0.05  1  0 "Corn grain/sugar-molasses", "Field
trial"
 389 "01010JC","O", 0.0202  1  1  0 "Cranberries-juice-concentrate", "Cranberry
Institute data"
 392 "01014JC","O", 0.00025  0.9  1  5 "Grapes-juice-concentrate", "PDP
1994-1997"
     12 Cooked: NFS, 0.00025  0.9  1 "PDP 1994-1997"
     13 Baked, 0.00025  0.9  1 "PDP 1994-1997"
     14 Boiled, 0.00025  0.9  1 "PDP 1994-1997"
     31 Canned: NFS, 0.00025  0.9  1 "PDP 1994-1997"
     41 Frozen: NFS, 0.00025  0.9  1 "PDP 1994-1997"
 402 "05004JA","12", 0.0011  1  1  2 "Peaches-juice", "PDP"
     11 Uncooked, 0.0011  1  1 "PDP"
     31 Canned: NFS, 0.0011  1  1 "PDP"
 403 "15006BT","O", 0.0051  1  1  2 "Peanuts-butter", "market basket"
     13 Baked, 0.0051  1  1 "market basket"
     14 Boiled, 0.0051  1  1 "market basket"
 404 "04003NA","11", 0.00066  1  1  0 "Pears-juice", "1997 PDP"
 405 "15008AA","6B", 0.000033  1  1  0 "Peas-succulent/blackeye/cowpea", "PDP
1996"
 407 "14023AA","1AB", 0.0043  1  1  0 "Radishes-japanese (daiken)", "FDA"
 413 "15009AB","6A", 0.000033  1  1  0 "Snowpeas", "PDP 1996"
 415 "10019AA","9B", 0.00003  1  1  0 "Squash-spaghetti", ""
 416 "01016JA","O", 0.00021  0.3  1  0 "Strawberries-juice", "FDA data"
 417 "15018HA","O", 0.00046  1  1  0 "Sunflower-seeds", "acute AR * 1% crop
treated"
 418 "14018LV","2", 0.0011  1  1  0 "Sweet potatos-leaves", "PDP 1994-1997"
 420 "02008JC","10", 0.00022  3.2  1  0 "Tangerines-juice-concentrate", "market
basket"
 431 "030090L","14", 0.015  1  1  0 "Walnut oil", "Field trials from Walnuts and
Almonds"
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 437 "24007OL","15", 0.0032  2.7  1  0 "Wheat-germ oil", "PDP 1995-1997"
 441 "02002JC","10", 0.000165  3.93  1  0 "Grapefruit-juice-concentrate",
"market basket"
 442 "02004JC","10", 0.00041  5.7  1  0 "Lemons-juice-concentrate", "market
basket"
 443 "02005JC","10", 0.00022  3  1  0 "Limes-juice-concentrate", "market basket"
 448 "02002HA","10", 0.00055  8  1  0 "Grapefruit peel", "Translated from
oranges"
 449 "No Code","P", 0.000002  0.5  1  0 "Turkey-other organ meats", "Dietary
Burden Calculation"
 451 "No Code","5A", 0.00122  1  1  0 "Broccoli-chinese", "PDP 94 from broccoli"
 452 "No Code","5B", 0.0015  1  1  0 "Bok choy", "FDA data"
 480 "06016GA","O", 0.00039  1  1  0 "Plantains-green", ""
 481 "06016DA","O", 0.00039  3.9  1  0 "Plantains-dried", ""
 482 "No Code","O", 0.00032  1  1  0 "Soybeans-protein isolate", "Knizner Memo."
 484 "No Code","O", 0.0043  1  1  0 "Radishes-oriental", "FDA"
 940 "No Code","O", 0.001  1  1  0 "Peanuts-hulled", "FDA and 10 % CT"
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